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MASS MEDIA AS AN HIV-PREVENTION STRATEGY: IMPACT ON YOUTH KNOWLEDGE, ATTITUDES AND BEHAVIOR IN TEN REGIONS OF THE RUSSIAN FEDERATION

Alekseeva E., Barkalova O., Alekseeva D., Kasatkin V.

Background: HIV epidemic in Russia is growing; the total number of officially registered people living with HIV has reached 544,000 people. According to UNAIDS and WHO, the actual number of HIV-positive people can be 1 million and even more. The most vulnerable group includes young people under 30, making 80% of all HIV-positive people. There is systematic preventive education on sexual issues in Russian schools.

Aim: Evaluate results of safer sex promotion mass media campaigns in 10 Russian regions.

Patients and methods: The qualitative sociological research was conducted by method of personalized formal interview at respondents' households. To get representative sampling of the respondents 15–29 years old random non-repetitive sampling was used in each region. Sampling volume was in average of 4200 respondents in each of the four waves of the research. Structures questionnaire was used consisted of 37 questions.

Results: The number of young people supporting most spread misconceptions on ways of HIV transmission dramatically decreased. The number of right responses to the five UNGASS questions has grown by 14,4% and constitute 44,4%. The number of respondents using condoms increased from 61% in 2005 to 69% in 2008. Young people familiar with the campaigns materials more often report using condoms compare to those who didn't see the campaigns materials (70% and 61% accordingly). The number of respondents using condoms with nonpermanent partners increased from 34,2% in the beginning to 48,4% in the end of the project. 63% choose safer behavior models under influence of the knowledge gained. 22% of youth living in the 10 regions were covered by the campaigns.

Conclusion: To curb HIV epidemic we need to provide youth with objective, reliable and nonbiased information given in positive way without moralization and intimidation; promote behavior norms that youth can follow; conduct series of campaigns to reinforce positive behavior; observes campaign implementation rules and verify results by conducting research.

2 PSYCHOLOGISTS OF COMMUNITY HEALTH CARE UNIT

**Alves N., Correia R., Themudo M., Amaral A.,
Mauricio I., Granja P.**

Background: To develop, implement and evaluate a long-term intervention project aimed to reduce the risk factors in specific scenarios (family, school and peer group) and enhance the resilience factors was the goal of School Health Team of ACES VII Amadora (a primary health center). This team was composed by psychologists, nurses and an occupational therapist.

Aim: To present and discuss the first results of a long-term intervention combining parent education, teacher and other educational agents training and social competence training for children during the primary school (with a 2 year follow-up).

Patients and methods: 94 children, their parents, teachers and other educational agents attending 3 public primary schools of Amadora's County. It is a non-randomised controlled study. Effects of the interventions will be determined through assessment of children's perception of school violence, self-esteem and behavior and children satisfaction with school. It will also be assessed parent's and teacher's self-efficacy. The same assessment will be made to a control group. After pre-assessment, the training groups will participate in the project. Afterwards there will be a post assessment and a follow-up-2-year-assessment.

Results: Presently we are not able to show any results since the project is being implemented. However by the time of the congress we will present and discuss the results of the pre and the post assessments.

Conclusion: The project will develop and improve social skills of various players in the educational process, in a multicultural community like the City of Amadora.

3 THE IMPORTANCE OF PARENTS HEALTH LITERACY IN SCHOOL HEALTH PROMOTION

Amann G.

Background: The Portuguese National Programme for School Health, within the scope of the Ministry of Health, reinforces the conditions for the success of school health promotion in partnerships with school, parents and stakeholders.

In Portugal, the school health model is developed by Health Centers and focus on: health of students, school inclusion of schoolchildren, safe school environment and healthy lifestyle.

School health professionals has long recognized that partners of the school health promotion projects do not understand the health information as they try to communicate. Low literacy is, indeed, an important barrier to the development of a Health Promoting School (HPS).

Aim: To describe the impact of health literacy rate of parents on knowledge of health, behaviors related with healthy lifestyles and participation on health promotion projects developed in the school setting.

Patients and methods: Based on a questionnaire, health literacy, knowledge and behaviors on health services and health promotion of parents was evaluated.

Results: Inadequate literacy increases with parent's age and there's a relationship between low literacy and worse outcomes, inadequate health knowledge and poor health behaviors.

The impact of parents health literacy rate in child outcomes, such us, nutrition, practices of physical activity, self-care, substance abuse, smoking, behavioral problems, regular screenings and other key aspect of healthy lifestyles is significant.

Conclusion: Improving parents reading ability helps to address underlying health problems. Small improvements may have big effects on parents' health outcomes and in children well-being.

Health professionals have many opportunities to improve the level of health literacy of parents, teachers and other stakeholders in their daily work in school health.

Thus, promoting health literacy, capacity building and empowerment are vital for health and contributes to improve the Health Promoting School projects.

4 STRUCTURE OF FOOD CONSUMPTION FOR CHILDREN OF MIDDLE SCHOOL AND ADOLESCENCE, CITY OF ARKHANGELSK

Anciferova O., Degteva G., Abramovskaya O.

Background: Nutrition is a vital factor in health, physical and mental development of children and adolescents.

Aim: Studying the structure of food consumption among schoolchildren.

Patients and methods: It was conducted to study the structure of food consumption of children of secondary school and adolescence in Arkhangelsk. The study was conducted between September and November 2009 in the course of the study was interviewed 576 schoolchildren. Questionnaires were processed by a computer program «Analysis of Human Nutrition,» Research Institute of Nutrition.

Results: Revealed inadequate consumption of products by students, both animal and vegetable origin.

Milk and milk products 4–6 times a week consumed at an average of 50% of the students, but their daily intake was inappropriate to development of body due to lack of calcium. Eating meat products from 4 to 6 times per week were noted in 47,8% of boys and 58,3% of girls eating fish 3–4 times a month at 50,6% and 46,4% respectively. Consumption of eggs from 2 to 3 times per week, noted at an average of 50% of schoolchildren, which also does not meet the recommended Institute of Nutrition RAMS consumption rates. Eating butter 1 to 2 times per day was noted in 37,5% and 57,9% of boys and girls respectively.

Grain products daily and the recommended amount consumed at an average about 40% of the students. Vegetables from 1 to 2 times per day consumed 57,7% of boys and 62,9% for girls. Consumption of fruits and berries, 2–3 times a week, an average 40% of schoolchildren. Have insufficient intake of students of unrefined vegetable oil (1–2 times per month).

Conclusion: The structure of the power of the study group students did not get the required balanced diet on the usefulness and variety of the daily diet.

5 STRENGTHENING OF HEALTH 15–17-YEAR- OLD YOUNG MEN – SUCCESSFUL SOCIAL AND ECONOMIC, MILITARY-POLITICAL DEVELOPMENT OF THE COUNTRY

Andronenkov I.

Aim: The urgency of strengthening of health 15–17-year-old young men is caused by the several reasons. First, the given category of the population of the country in the near future will define the further social and economic development of Russia and its defensibility. Secondly, in this age interval there is an uneasy choice of values and own style of life.

Results: The analysis of dynamics of a state of health carried out by us 15–16-year-old young men for 2004–2009 гг. Testifies that overwhelming majority of modern young men in 15 and 16 years there pass preventive medical inspections. Practically at everyone 2–3 from them chronic diseases and young men come to light are registered. Nearby 100 from 1000 examined are registered for the first time that testifies to insufficient quality of health services of young men at earlier stages of their development. A significant amount of young men needs medical-improving actions which are carried out more than in 73% of cases, but only 12–14% from among consisting in 3 group of health are translated in 2 group and only 6–7% from number standing on the account act in film from it that testifies to presence at rising generation of early synchronization of diseases and insufficient efficiency of medical-improving actions.

Simultaneously as the analysis of results of physical examination of young men testifies at initial statement on the military account (in a year till 17 years) more than at 600 from 1000 examined deviations in physical development and a state of health are diagnosed. Thus at 200 from 1000 examined diseases are diagnosed for the first time, every fourth – the fifth young man goes on inspection and every ninth – the tenth – on treatment to public health services establishments that complicates work of the last and the considerable economic damage causes to a society.

Conclusion: for strengthening of health 15–17-year-old young men it is necessary to improve clinic-diagnostic inspection, treatment of young men in blizhne-urgent prospect and to develop the standard legal certificate corresponding to realities and regulating health services 15–18-year-old young men, with standards of their clinic-diagnostic inspection and dynamic supervision over persons with chronic diseases.

6 ROLE OF THE CENTER OF HEALTH OF CHILDREN'S POLYCLINIC IN PREVENTIVE MAINTENANCE OF DISEASES AT CHILDREN OF SCHOOL AGE

Antonov O., Velmatova A., Sokolova M., Poddubny S.

Background: Now decrease in indicators of health of the children's and teenage population is caused not only distribution of chronic diseases, but also absence of skills of eutrophy, physical training, presence of bad habits – a tobacco smoking, the use of spirits. So the role of the Center of Health of children's polyclinic increases in formation of a healthy way of life at children of school age.

Aim: Research is spent on the basis of one of the first Centers of Health in Russia – in the Omsk City Children's polyclinic № 2 named in honor of V.E. Skvortsov. A research objective: to estimate results of primary inspection at children in school age 7–15 years on the basis of the Health Center.

Patients and methods: Material: 200 cards of the Center of Health for children any sample among children of school age (7–15 years old).

Methods: screening-estimation of level of psycho physiological and somatic health, functional and adaptive reserves of an organism, parameters of physical development.

Results: The Estimation of prevalence of functional deviations from an internal has revealed the greatest number of deviations from cardiovascular system (79%, n = 158). Prevalence of functional deviations from vegetative nervous system made 55% (n = 110). Among various symptoms most often met: caries (16%, n = 32), increase of arterial pressure (14,5%, n = 29), surplus of weight of a body (11%, n = 22), deficiency of weight of a body (8%, n = 16), a bite pathology (8%, n = 16), a tachycardia (7%, n = 14) and a bradycardia (2,5%, n = 5). On each child the individual plan of the further supervision and improvement has been made, directions in special «Health Schools» are given.

Conclusion: the revealed functional deviations define necessity of making out of programs of primary preventive maintenance of the diseases raising motivation of conducting of a healthy way of life. Results of primary preventive maintenance should be estimated in dynamics in a one year.

7

INDICES OF COGNITIVE FUNCTION «MEMORY» IN SCHOOL CHILDREN

**Antonova E., Maslova O., Balkanskaya S.,
Karkashadze G.**

Background: Investigation of cognitive functions gives the possibility to estimate the intellectual activity and find reasons for difficulties children have during their school career.

Aim: 1/To estimate the state of different aspects of intellectual activity of schoolchildren and to find an accordance with age or grade of deficiency (partial or total); 2/To reveal reasons for difficulties during school career.

Subjects and methods: 134 pupils took part in our investigation. Selection criteria were: physiological, somatic and psychoneurological, good results at school. Testing was done with the computerized system, in standard conditions – in the first half of a day, in children feeling well, using standardized verbal instruction with preliminary demonstration of each task according to the procedure, developed by the authors.

Results: We received a set of quantitative indices of anamnesis data in healthy children according to age. The memory capacity of children in classes 30% higher ($p < 0,001$) and of senior pupils 45% higher ($p < 0,001$) in comparison with junior pupils. The memory capacity of senior pupils is 15% higher ($p < 0,01$) than of children in middle classes. Operative and logic memory of children in middle classes are 15% higher in comparison with junior pupils. These indices of senior pupils are 2,8 times ($p < 0,001$) and 2,4 times higher compared with children in middle classes and in junior classes accordingly. Visual image memory volume of children in middle classes is 28% higher ($p < 0,001$) and of senior pupils is more for 43% ($p < 0,001$) in comparison with junior pupils. The level of mistakes in children of middle classes is 2 times lower ($p < 0,001$) and in senior pupils – 2–3 times lower ($p < 0,001$) compared to junior pupils. The level of mistakes in senior school children is 2–3 times lower ($p < 0,001$) in comparison with middle classes pupils.

Conclusion: The data allow determining pedagogic, psychological and medical aid to children with cognitive activity disturbances in dynamics using objective criteria.

8 INDICES OF COGNITIVE FUNCTION «ATTENTION» IN SCHOOL CHILDREN

**Antonova E., Maslova O., Balkanskaya S.,
Karkashadze G.**

Background: The attention is one of the most important conditions of cognitive and intellectual activity. The primary attention deficit may result in disturbed social and school adaptation.

Aim: To determine normative indices of cognitive activity of schoolchildren

Subjects and methods: 134 pupils participated in this investigation. Selection criteria were: physiological, somatic and psycho neurological, good results at school. Testing was done in the quiet conditions, in children feeling well and positive, in absence of evaluative aim, using the testing computer systems (TCS) «Rhythmotest», «Mnemotest», «Binatest».

Results: Quantitative indices of attention quality in healthy children according to age show the correlation of indices with the maturation of brain structures of the growing organism: 1/the attention level of children in middle classes is 12–25% higher and of children in senior classes 16–42% higher in comparison with junior pupils. 2/the attention concentration of children in junior classes are 6 times more difficult in comparison with senior pupils. 3/the attention stability of children in junior classes are 4 and more times lower in comparison with senior pupils. 4/the attention change-over in children of middle classes are 2 times higher and of senior pupils 3 times higher compared with junior pupils.

In junior classes children characterized with increased emotional excitability have little volume instability and inflexible attention, difficulties in attention change-over. These characteristics become better with growing and developing personality.

Conclusion: The data of attention level, stability, concentration, change-over will help to detect its primary deficit and to arrange correction measures and not allow school desadaptation to develop.

9 DYNAMICS IN STATE OF HEALTH DURING THE TRAINING PERIOD OF THE GIRLS, ENGAGED IN RHYTHMIC GYMNASTICS

**Babikova A., Nasybullina G., Sevastyanov Y.,
Grigoryeva R.**

Background: Physical training and sport stimulates the growth and development processes in optimal way. The main goal of sport in this period of mass character is children's health promotion.

Aim: To assess the role of increased sport's participation in health promotion during childhood.

Subjects and methods: On the occasion of preventive examinations 103 girls, engaged in schools of physical culture in Yekaterinburg city, were examined prospectively during 3 years. These athletes are in the training period of a sport specialization (20% of general totality). The sickness rate, the physical development and the functional status of the cardiovascular system were examined.

Results: During the 3 years period of follow up the sickness rate increased from $80 \pm 1,2$ to $102 \pm 2,3$ cases for 100 persons. Diseases of the musculoskeletal system were the most prevalent (26%) mainly because of the flat feet and scoliosis, followed by diseases of the genito-urinary system (15%) because of the kidney diseases and no inflammatory vulva diseases, and diseases of the circulatory system (13%) – because of the heart rate. 77,2% of girls have an average height, in 67,3% of the girl's body weight corresponded to their height, 74,9% had an average lung capacity or a lung capacity above the average value, 94,8% had an average arm strength or above the average value. With the years the rate of girls with body weight and arm strength of average or below the average value and with average value of lung capacity ($p < 0,05$) increased.

The Index of the Harvard step test increased from 72 in the first year of observation to in the 3rd year ($p < 0,05$).

Conclusion: The evolution of sickness rate shows the necessity of medical rehabilitation and correction of training process for athletes with deviations in the state of health.

10 ACHIEVEMENTS AND PROSPECTS IN PEDIATRIC COGNITIVE NEUROLOGY

Balkanskaya S., Maslova O., Antonova E., Nadezhdin D.

Background: Screening of children's psycho neurological development and regulation of educational process collide with rather low psycho physiological equipment capability.

Aim: Investigate possibilities of new computer testing system for early diagnostics of psycho physiological disorders.

Patients and methods: Cognitive neurology is neurology's trend of early detection of cognitive impairments of children with neurological disorders, being used together with computer testing (CTS) «Ppsychomat». There are Cognitive Subscales in CTS: Perception (auditory, visual, verbal), Sensomotor activity; Attention (concentration, grade, distribution, attention switch, stability); Working memory (accuracy and operability); Mentality, spatial orientation; Arithmetical count (accuracy and operability); Reading skills; Motor activity; Coordination (static, dynamic); Rate of mental processes (decision-making speed); Vegetative support (vegetative coefficient); Total personality (anxiety, harmonicity of development, personality accentuation); Social functioning (behavior at home, out of home, with peers, in child welfare institutions).

Results: Multiparameter quantitative values of cognitive function (CF) of more than 300 healthy preschool and schoolchildren (6–15 years of age) and of more than 5000 children with various CNS pathology have been received for the first time.

Major indications for using CTS have been developed:

- Learning difficulties (attention disorders, dysgraphia, dyslexia, dyscalculia, performance decrement, transient school incompetence)
- Neurodevelopment delay and mental retardation
- Particularities of emotional-volitional sphere formation
- Behavioral disorders

Conclusion: «Developmental neurology», which can also be called a social neurology or cognitive and behavioral neurology, becomes a major scientific field at the turn of XX century and in XXI century. These changes create a demand for new diagnostic classification approaches, new methods of children treatment, development of new drug types.

Q10 has proved to be an effective supplement and cardio protective agent for young athletes.

11

MAINTENANCE OF HYGIENIC SAFETY OF GOODS FOR CHILDREN AND ADOLESCENTS

**Barsukova N., Chumichova O., Nadjozhina L.,
Golovacheva I.**

Background: To prevent the risk of health disorders in youngsters it is necessary to control of the safety of goods for children.

Aim: To develop a scientific basis for hygienic regulations and new methodic approaches for the assessment of hygienic safety of goods for children, aiming to increase its efficiency.

Subjects and methods: Taking into account the essential gaps in approaches to rationing of the content of free formic aldehyde in textiles, a wide-spread occurrence and a high degree of its migration in model environments from textiles we carried out a toxicological experiment on non-eugamic animals

Proceeding from a real chemical load considering the square of the contact of the article with a child's skin, weight of the sample and safe levels of the impact (20 mkg/g, 75 mkg/g and 150 mkg/g, 750 mkg/g of the cloth), we calculated the doses of formic aldehyde for application on the skin of non-eugamic rats in the conditions of sub acute experiment (two weeks).

Results: We studied the dynamics of body mass gain, parameters of nervous system, blood system, functions of liver and kidneys and estimated the state of immune system according to the levels of formic aldehyde effect.

The findings showed that during the percutaneous influence the content of formic aldehyde 20 and 75 mkg/g had not caused the changes from the controlled indicators; the content of formic aldehyde – 150 mkg/g caused the decrease of indicators describing the state of central nervous system; the content of formic aldehyde – 750 mkg/g caused neuro- and hematotoxic effect.

Conclusion: The findings allowed reducing the safe levels of formic aldehyde influence according to a real load of the article.

12 FEATURES OF THE BEARING AND BACKBONE OF CHILDREN NATIVES AND MIGRANTS OF THE NORTH OF RUSSIA

Batrshin I.

Background: In the north of Russia it is possible to allocate indigenous population (khanti, mancy, nenci), centuries living on the given territory and migrants for whom environmental conditions of the Far North are extreme.

Aim: Studying of features of a bearing and deformation of a backbone at schoolboys of the Far North.

Patients and methods: 1000 children of local natives and 2000 children of the migration population are surveyed by a method of computer optical topography.

Results: It is established, what is the indicators of length of a trunk – Lng (distance from C7 to a sacrum) at children of migrants – 495 mm., and at children of natives – 464 mm. Width of a trunk (RWL – the relation in percentage distances between axillary folds to length of a trunk) at children of migrants – 63%, and at children of natives – 68%.

Bearing it was estimated on an integrated index of infringement of the form dorsalis trunk surfaces – PTI in three planes. In group of natives the deviation from norm is available for 45%, and group of migrants – 62%. Prevalence of a scoliosis at natives of 1%, and at migrants of 3,2%.

The bearing of children of the Far North is influenced by an ethnic accessory and climatic conditions. The greatest length of a trunk is defined in group of children of migrants, and the least – at children of natives. The width of a trunk in these groups has inverse relationship. Prevalence scoliosis deformation at children of migrants in 3 (!) times as large than at children of natives.

Conclusion: Migrants in severe for them severe, unusual conditions tests adverse factors of acclimatization and adaptation. For this reason they appear in the worst conditions in comparison with natives and consequently have the worst indicators of a condition of a spine column and a bearing.

13

BEEBOFT: PREVENTION OF OVERWEIGHT IN PRESCHOOLERS, A CLUSTER RANDOMIZED TRIAL

**Beltman M., L'Hoir M., Boere-Boonekamp M., Nawijn L.,
Struijk M., Raat H.**

Background: The Dutch Youth Health Care (YHC) Overweight prevention protocol promotes: breastfeeding; outdoor exercise, activity and play; having breakfast daily; few soft drinks; less TV time (the «BBOFT»-behaviors).

Aim: This study aims to evaluate the effects on the prevention of overweight of two YHC interventions, «BBOFT+» and «tailored advice», compared to care-as-usual, as applied to children of 0–3 years old and their parents.

Patients and methods: In a cluster-randomized trial, 68 YHC teams of 10 regional YHC providers participate; 2909 children are included after birth and followed till the age of 3 years.

Both the «BBOFT+» intervention and the «tailored advice» intervention are based on the YHC-Overweight prevention protocol. The «BBOFT+» intervention aims at implementing healthy life-style habits through focusing on effective child rearing from birth till 3 years.

The «tailored advice» intervention has a focus on the promotion of parenting competence by face-to-face counseling, using motivational interviewing, strengthened by a dedicated E-health module at the age of 18 and 24 months. «Care as usual» is defined as care according to the Product Description YHC.

Results:

1. Process evaluation: The adherence of parents and YHC professionals to distinct elements of the interventions.
2. Effect evaluation: Primary outcome measure is the Body Mass Index at the age of 3 years. Secondary outcome measures are: energy balance-related behaviors, parenting practices/style, abdominal circumference.
3. Cost-effectiveness analysis: the ratio between costs and effects, with the BMI as primary outcome measure.

Subgroup analyses will direct at groups with different socio-economic status and different ethnic background.

Conclusion: In 2010 we have discussed this study during a workshop on the EUSUHM 2010. In June 2011 the first data will be available and presented in Moscow.

14 POTENTIALS OF MODERN TEACHERS IN HEALTH EDUCATION — A CASE STUDY

Belyaev G., Belyaeva A., Nazarova E.

Background: The research project is designed to study the present-day situation as well as the prospects of development of the professional educational community as a subject of health education.

Aim: During a number of LEARNING EPISODES 20 per cent of students felt absence of their permanent anxiety, some psychosomatic manifestations like headache were simply forgotten.

Patients and methods: 15 per cent of learners became more relaxed and began to feel what EMPATHY or COMPASSION is.

Results: And 12–13 per cent of the students realized their dependence on alcohol at the level of life motivations, they recognized themselves while story-telling and retelling helped them to dissociate their personal self as something different from alcohol or drug existence. For two past years of educational practice this method of adapted story-telling has been used by us in various, numerous (up to 40 personalities) and different groups of learners. It has revealed some covert motivations in attitude of learners towards stereotype life scenarios. And thus the method has revealed changes, taking place in student communication while they are put together into special upbringing spaces of fantastic reality, specially designed.

Conclusion: That is the reason for the analysis made within the framework of the project special for the social consequences influencing the educator potentials in form of optimal and pessimistic scenario. The project also supposed to elaborate and use effective means and mechanisms to develop moral educational potentials in health education. Readiness for further development should be taken into account as an integral criterion for evaluation process concerning higher school students. The undertaken case studies should effect more adequate realization of management in the sphere of health education, increase of its quality and returning leadership positions to modern schooling in moral education of young generations.

15 ANALYSIS OF INTERSECTORAL STAKEHOLDERS IN THE PHILIPPINE FIT FOR SCHOOL PROGRAMME — MAPPING INTEREST AND POWER AS A BASIS FOR SUCCESS

Benzian H., Monse B.

Background: Knowing and using the interests of stakeholders is a key success factor in programme planning and management. The Philippine Fit for School (FFS) Programme was awarded for «Innovation in Global Health» by World Bank, UNDP and WHO during the 2009 Global South-South Development Expo. The cornerstone of the FFS concept is the intersectoral implementation of a package of preventive health strategies, called the Essential Health Care Programme (ECHP) consisting of simple, evidence-based interventions that address the most prevalent diseases of children in the Philippines. The programme currently reaches 1,5 million children.

In order to overcome institutional and sectoral barriers in programme planning and implementation a political stakeholder analysis was undertaken.

Aim: In order to overcome institutional and sectoral barriers in programme planning and implementation a political stakeholder analysis was undertaken.

Patients and methods: Political stakeholder analysis using the methodologies proposed by Varvasovszky & Bruga (2000) and the Capacity Works Management Model for Sustainable Success (German Development Corporation GIZ, 2006).

Results: The analysis identified a broad range of stakeholders in the public sector, from civil society, as well as from the private sector. Their degree of interest in child- and school health varied hugely and was driven by different short, medium and long-term agendas. The analysis focused on identifying incentives for each stakeholder to participate and/or support school health as an effective platform for mass-scale health and education improvements.

Conclusion: Despite technical evidence for the effectiveness of school health in improving health and education performance of children, programme implementation largely depends on political factors. Knowing the political interests of stakeholders is useful step to use them creatively in advocacy. The lessons learnt from the Philippines are generic to similar school health settings in other countries.

16 ENVIRONMENTAL EDUCATION AS INTEGRATING FACTOR OF INCREASE

Berdnyk O., Dobrianska O., Platonova A.

Background: There is no doubt of a close relationship between the environment and human health. Interaction of human life and its environment depends on the level of consciousness.

Children as the future potential of the state, are the most important contingent in terms of environmental education and management of ecological thinking.

Aim: To assess the level of environmental consciousness of modern adolescents and its relation with their health.

Patients and methods: Questionnaire of schoolchildren, teenagers, epidemiology researches.

Results: This clinical study found a rather low level of environmental knowledge of the modern adolescents. It was found very small role of school and family in the formation of ecological consciousness.

The main source of information for most children on environmental issues is media. Every third urban and fifth village respondent uses Internet to meet the information needs of environmental problems.

The analysis of the somatic health of adolescents showed a clear correlation between its level and the type of environmental awareness. Thus, among girls with high and medium level of somatic health there are more likely those who have ecocentric and nature-centric type of awareness; among boys with low health teens with the anthropocentric type dominated.

Conclusion: There was established the dependence between the level of environmental consciousness among adolescents and the way of life: among children with high levels of environmental awareness significantly there are more those who adhere to the principles of healthy lifestyle, the higher the level of environmental awareness of children, the higher is the potential of their health.

17 PHYSICAL DEVELOPMENT OF PRESCHOOL CHILDREN IN MEGALOPOLIS

Berezina N., Lashneva I.

Background: The level of physical development is a significant indicator health state of children, their life conditions and education. Monitoring of preschool children's physical development allows timely to find out the disorders in their development and purposefully carry out the correcting work in conditions of nursery school and family.

Aim: To study the physical development of senior preschool children (5–7 years old) and to elaborate the system of healthful measures for optimization of their development.

Patients and methods: In a 5 year dynamics we carried out the study of physical development of children in nursery schools in Moscow taking into account the anthropometric indicators (length and body mass), functional possibilities of child's body with the definition of the level of development of physical qualities, motor skills and the state of the bone-muscular system. We used special questionnaires for parents that had included the questions on the arrangement of daily regime and physical education in family.

Results: It has been determined that the most number of children are harmonically developed; the part of children with low body height does not exceed 0,5%. There is a trend of increasing the number of overweight children. It has been determined the reduction of rate of increase of development indicators of speed-power qualities in children aged 6–7 years. Disorders of the bone-muscular system take a leading place among the functional disorders in state of preschool children health, their prevalence increases by starting school. The analysis of the questionnaire data showed the decrease in motor performance at the weekends in 70% of preschool children; a lot of families do not pay an adequate attention to children's quenching.

Conclusion: Taking into consideration the findings, the staff in child institutions and parents should focus their attention to the observation of the succession of health measures in family and formation of children's healthy life style.

18 SEX EDUCATION AND TEACHERS' CONCEPTIONS, WHAT IMPACT ON TRAINING?

Berger D., Bernard S., Carvalho G.

Background: This study is included in the Biohead-Citizen research project (FP6, CIT2-CT2004-506015). We present the results coming from 15 countries on health education and sex education (HRSE). Our objective is to identify the teachers' conception variation.

Aim: We aim to build training programmes on teachers' knowledge of and attitude towards HRSE. The literature shows the relevance of teachers' conceptions in the implementations of health education programs in school.

Patients and methods: The questionnaire (n = 6001) come from 15 countries: Algeria, Tunisia, Morocco, Senegal, Lebanon, Burkina Faso, Brazil, Portugal, France, Italy, Finland, Cyprus, Estonia, Hungary and Romania.

We use principal component analysis. We have done a discriminating analysis in complement to show differences between groups' conceptions (country context, training, religion, faith and gender).

Results: The results show 2 poles, those who agree with equal right between men and women, for homosexual couples and who think that religion, sciences and politic must be separated. At the opposite, we found those who don't agree with abortion and who think that women can't biologically have high responsibility than men and they are biologically in charge of domestic work. They also think it is not the job of teachers to teach HRSE if they don't feel well with it.

Cross analyses' results with country variables, religious conception, level of faith, gender and academic training show the impact of social representations and teachers' conceptions on their practices and their importance in the implementation of HRSE in school.

Conclusion: The great challenge is to identify better the teachers' conceptions in HRSE and their links with the practices. HRSE are determined not only by the social context but also by the teaching pedagogical practices and conceptions. However, the early access to information is the best way not only to prevent sexual violence and sexual transmitted infections but also to promote sexual health and more largely health education.

19

QUALITY OF LIFE IN JUNIOR ADOLESCENTS IN DIFFERENT EDUCATIONAL INSTITUTIONS

Blinova E., Shubochkina J., Novikova I., Demakova L.

Background: The use of the standardized approaches to the evaluation of the influence of life conditions and style on quality of life in adolescents from different educational institutions is an urgent task.

Aim: To study the quality of life in adolescents by means of the MOS–SF 36 (Medical Outcomes Study-Short Form) inquirer which gives a subjective characteristic of physical, psychological and social functioning of the individual and to eliminate the factors influencing the parameters of quality of life?

Patients and methods: 215 university students, 208 students from institutions of elementary vocational education and 196 junior pupils were questioned by the MOS–SF 36 inquirer and others. Samples were checked on the character of distribution, statistical processing was carried out with the use of a correlation analysis.

Results: The use of the correlation analysis allowed defining causative-consecutive links between various factors of life influencing the health and life style of students 15–19 aged. Inadequate nutrition regime, circumstances and presence of chronic disease authentically influenced the psychological welfare of university students. The decline of physical and emotional states limited their social activity. The overwrought emotional state was connected with insufficient rest of students. The organization of educational process influenced the physical functioning of students – future workers, the health state and life style influenced their emotional state. The level of physical culture effected on their life activity. The life style influenced the quality of life most of all. Correlation links between health state, health after lessons and indicators of all scales of quality of life were determined. The quality of nutrition also influenced the students' life activity.

Conclusion: The findings allowed to develop regulatory values of the MOS–SF 36 inquirer for junior adolescents and to eliminate factors influencing the indicators of quality of life in students.

20 EARLY IDENTIFICATION OF CHILDREN WITH GLOBAL DEVELOPMENTAL DISABILITIES: THE D-SCREENING

**Boere-Boonekamp M., Dusseldorp E.,
Coenen-Van VroonhoVen E., Oudesluys-Murphy A.,
Van Buuren S., Verkerk P.**

Background: Recently the D-screening has been developed aiming to identify children with a risk for global developmental disability ($50 \leq IQ \leq 85$) at school age. This screening is based on the indicators from the Dutch developmental surveillance instrument (a modified Gesell test, used in Youth Health Care (YHC) in preschool children), and background characteristics of the child and its parents.

Aim: To determine the effectiveness of the D-screening administered to children 9, 14 and 24 months of age.

Patients and methods: In the intervention (N = 350) and the control group (N = 252) of a comparative study, YHC doctors assessed the development of children, aged 9, 14 and 24 months, with the developmental surveillance instrument.

In addition, the doctors in the intervention group applied the D-screening (step 1). In case of a doubtful or positive result the parents filled out the Ages and Stages Questionnaire and results were discussed in an extra consultation (step 2). Finally, in doubtful or positive cases the development of the child was assessed with the Bailey Scales of Infant Development (BSID-II) (step 3).

Results: After the first consultation, the number of follow-up activities was equal in the intervention and control group. After 3 steps, and after correction for differences in background characteristics between the two groups, the number of referrals of children for diagnostic work-up and special support or treatment was significantly higher in the intervention group (OR 6.12; 95% BI 1.03–36.79). The screening and the subsequent steps in case of doubtful or positive test result appeared very practicable in the YHC setting and supportive to doctors as well as parents.

Conclusion: The D-screening can be used effectively in YHC. Together with the subsequent steps, it results in more referrals for diagnostic work-up and supports the decision making process in parents as well as professionals.

21

EXPERIENCE OF THE ESTIMATION OF RISK FACTORS FOR SCHOOLCHILDREN HEALTH

Bogomolova E., Kuzmichev U., Badeeva T., Ashina M., Platonova T., Leonov A.

Background: The decision of problems of management of development and health of children at schools dictates necessity of revealing of relationships of cause and effect between significant medical and social, ecological and hygienic factors and health indicators on the basis of the system approach and quantitative measurement of risk.

Aim: Research objective is the risk estimation of intra-school factors for schoolchildren health.

Patients and methods: Indicators of health of 4666 schoolchildren at the age of 7–17 years according to profound medical inspections, and intra-school factors with calculation of integrated indicators of sanitary-and-hygienic maintenance (SGM) are studied at 10 schools.

Results: Priority risks of deviations in health of pupils are proved by means of demonstrative medicine. Statistically significant relative risk (RR) of medical-and-biologic factors (4,12), factors of the first year of a life (4,86) and factors of a life style (5,28) is defined for formation of a chronic pathology. Statistically significant high RR of formation of chronic diseases have been revealed from the intra-school environment: the unsatisfactory condition of the ground area (3,15), educational (4,88) and common-school (2,62) premises, the unsatisfactory organization of educational process (2,39) and the unsatisfactory medical maintenance (8,81). The most significant indicators of the intra-school environment are revealed, their optimization will lead to increase of level of the schoolchildren health.

Conclusion: Calculation of RR of environment factors allows to manage the health of pupils by timely correction of the priority factors having high risk of influence on health.

22 PHYSICAL DEVELOPMENT OF MODERN SCHOOLCHILDREN IN MOSCOW

Bokareva N., Skoblina N.

Background: Studies were carried out in 11 schools of Moscow in which the similar studies were carried out in 60s and 80s.

Aim: To study physical development of modern schoolchildren in Moscow.

Patients and methods: Anthropometrical methods, the definition of biological age and statistical methods. It was examined 5008–12 year-old children. A piece of work does not outrage and endanger the well-being of subjects of the study and corresponds to the requirements of biomedical ethics.

Results: In dynamics of training in primary school the level of harmonicity of physical development is mainly kept; the coefficients of contingency of the data received at the age of 8 and 12 years old are 0,60 ($p < 0,001$) for boys, 0,62 ($p < 0,001$) – for girls.

At the same time 19,0% of boys from the group with the deficiency of body mass pass into the group with normal physical development and 6,8% of boys from the group with normal physical development pass into the group with overweight. 22,5% of girls from the group with underweight pass into the group with normal physical development, and 6,8% of girls pass into the group with overweight. In dynamics of training in primary school the group of boys and girls with overweight is increased.

Conclusion: There is a tendency to the increase of the number of children with overweight up to 13,5% in Moscow.

23

IMPACT OF THE INSULIN PUMP THERAPY ON QUALITY OF LIFE OF CHILDREN AND ADOLESCENTS WITH DIABETES MELLITUS TYPE 1

Bolotova N., Kompaniets O., Filina N., Nikolaeva N.

Background: Diabetes mellitus is a chronic disease, which affects the children's life. Often the interest of physicians tends to physical aspects of disease, giving very little information about psychosocial measure and quality of life of their patients.

Aim: to investigate the changes parameters of quality of life (QoL) in children and adolescents with diabetes mellitus type 1 (T1DM), using different regimes insulin therapy.

Patients and methods: Thirty patients with diabetes mellitus type 1, aged 5–18 years (mean $13,3 \pm 3,04$ yr), with disease duration from 1 to 10 years (mean $5,4 \pm 3,4$ yr) took part in paired study. QoL was assessed with the PedsQLä (Generic Core Scales and Diabetes Module, Russian version) at two time points: 1st – during multiple daily insulin injection (MDI); 2d – after initiation continuous subcutaneous insulin infusion (CSII). Data were analyzed in subgroups aged 5–7 yr, 8–12 yr, 13–18 yr.

Results: Nevertheless, analysis demonstrated positive dynamic of QoL in patients after initiation CSII. Treatment barriers decreased due to reduction of a number of injections (75,3 vs. 90,0 $p < 0,05$) in preschool-age children. Patients at the age of 8–12 evaluated higher physical function (74,2 vs. 94,0, $p < 0,05$) after initiation CSII. In adolescent's group social activity indicates improved (85,0 vs. 95,0, $p < 0,05$). Further, they were less worried about long-term complications (70,0 vs. 85,0, $p < 0,05$).

Conclusion: Using of insulin pump therapy in children with T1DM allows to improve of quality of life. Preschoolers get used to the necessary of insulin therapy easier, schoolchildren and adolescents have opportunity to increase the level of their physical and social activity.

24

FEATURES OF ADAPTATION OF THE CHILDREN WITH SPECIAL NEEDS TO THE PRE-SCHOOL THE PRE-SCHOOL

Boyarchuk O., Sagal I., Katerynyuk T.

Background: Around the world, the education and rehabilitation of children with disabilities is of particular importance.

Aim: The aim of our investigation was to learn the peculiarities of adaptation of the children with special needs to the pre-school and to find the way of improving their social adaptation.

Patients and methods: We observed 21 children from children's school number 8 of Ternopil, where are educated and receive complex correction, rehabilitation and health care children with disabilities.

The observing include studying the living conditions of families where these children grow up, medical examination, psychophysical development.

Results: We can note a particular attitude towards them by parents and relatives. It consists primarily of excessive care, reducing demands, artificial limitations of activity, fulfillment of their desires. Accordingly children developed inferiority complex, constant depending on the guardians, distrust to the others, they used to be reserved, they got sleep disturbance and fear of staying alone. At admission to kindergarten they felt severe psycho emotional stress and needed special assistance in the process of adaptation, as their neurotic developmental disorders and upbringing mistakes prevented self-adaptation to the new conditions. Due to the data of medical examination, psychophysical development, problems of upbringing, an individual plan of correction for each child is developed. After 3 months of daily work with children 90,5% of children were able to eat by their own, 66,7% learned the skills of self-service. Our experience shows that within 2–3 years of stay in children's preschool institutions the most children improved their language development, 1/3 of them their motor function.

Conclusion: Teamwork between family and professionals is required to achieve faster adaptation of the children with special needs to the pre-school conditions and to improve their social adaptation.

25
**HYGIENIC EVALUATION OF MENU STRUCTURE
AND BIOLOGICAL FULL VALUE
OF READY-MADE DISHES IN SCHOOL
BREAKFASTS SUGGESTED
TO SCHOOLCHILDREN OF ORENBURG REGION**

**Burtseva T., Malisheva N., Skal'niy A., Frolova O.,
Burlutskaya O.**

Background: The structure hygienic evaluation of ready-made dishes menu and biological full value for school breakfasts was carried out before the project about the school diet organization in Russian federation subjects and in a year.

Aim: A study the average content of chemical elements in ready-made dishes for school breakfasts in details.

Patients and methods: The ready-made dishes tests were chosen during 12 academic days on the «Adult work center «Youth» enterprise. It allows studying the average content of chemical elements in ready-made dishes for school breakfasts in details.

Results: The received data analysis showed the extremely low content of all studied vitally important macro- and microelements. The calcium content is reduced in 2,9 times, phosphorus — in 2,1, magnesium — in 1,4. The content analysis of iron, zinc, copper and iodine showed the lower content in 15, 16, 8 and 1,5 times accordingly. At the same time the selenium was not determined at all in studied tests of ready-made dishes, whereas the potassium and sodium content exceeded fixed norms in 1,7 and 2,7 times accordingly.

As to chemical composition of school breakfasts menu, suggested by «youth» enterprise, there is rather high content of macro-and microelements in ready-made dishes, however it didn't correspond to fixed norms. At the same time the selenium and chromium was not determined at all in studied tests of ready-made dishes tests. The calcium and sodium content was near to normal meanings. As to toxic elements indices they were near to zero or didn't determine at all.

Conclusion: As to the results received by investigation of school breakfasts menu suggested by «Youth» enterprise the innovative technologies of ready-made dishes cooking and delivery, which are used by this enterprise, authorize its usage.

The research was carried out on the base of the content — «The Ural: history, economics, culture» 11-06-81602 and the administration of Orenburg region.

26 SUCCESSFUL PREVENTION AND VACCINATIONS IN SLOVENIA

Cajnkar Kac M., Mugosa J., Prunk B.

Background: The schoolchildren and adolescents are healthy and dynamic, but an endangered population too. The prime interest of school medicine is constant monitoring of health, the improvement of health and the reduction of health inequalities among this group.

The foundations of school health services in Slovenia, go back to the beginning of 20th century.

Patients and methods: School doctors are in charge of the complete healthcare activity (prevention and treatment).

The physical systematic examination usually takes place every two years, starting from the first day in school, to graduation. It allows monitoring of growth and development, vaccination, detection of disease states and health educational work.

Results: Vaccinations against infectious diseases (MRP, HepB, DI-TE-PER, HPV, ANA-TE) are performed by national program. The success of vaccination is 92–98%. All the enumerated vaccinations are mandatory, except the HPV vaccination, which asks for parental choice and permission. It has been in use since 2009. The success is approximately 40% lower than in the case of mandatory vaccinations.

This contribution shows the manner of implementation over regions in Slovenia.

Physical examination is followed by a team analysis, professional orientation, recommendation for treatment of the detected diseases, health resort treatment, health vacations etc.

Different types of education are also organized for children and their parents, such as school of asthma, course in healthy nutrition and weight loss, support for children with enuresis and encopresis etc.

Conclusion: It is clear that regular monitoring of growth, development and health of schoolchildren and adolescents, provide basis for appropriate and accurate professional actions, aimed at health protection of this population.

27

SANOGENETIC STATUS OF SECONDARY SCHOOL PUPILS IN REPUBLIC ADYGEA

Chamokova A.

Background: The wide-range experiment for updating of structure and content of education in connection to the real deterioration of modern kids and teens health has no proper science or medical support, that don't afford us to judge about the results of health keeping and strengthening in Russian schools, taking to the account the sanitation-epidemiological peculiarities of Russian Federation children's well-being. We have studied the influence of secondary education updating elements on health and morpho-functional status of pupils of secondary schools in Republic Adygea. The researches were taking place in three educational institutions of Republic Adygea. All the pupils studying in these three experimental schools (1.192 children) and the analysis of sanogenetic and biogenetics statuses of pupils 109 children were included in 18 showings.

Patients and methods: Sanogenetic monitoring showed the predominance of children with optimal or sufficient level of cardio-vascular, respiratory and nerve-muscular system functioning, exchange processes, especially in pupils of health school of Maykop that is caused by positive influence of more active motion during their staying there, its rational organization.

Results: There are no children with «functional strain» of myocardial condition, heart rate variability, blood pressure and its variability, respiration system and psycho motional coordination in the health school. In condition of normal population such marks are registered in 10% of pupils.

The level of metabolism (according to the laser correlation spectrometry of nasal-pharynx washout showings) in most pupils is normal or contains slight changes.

In teens group researched by A. M. Prihojan method ($n = 106$) average scale rate on all the types of anxiety both in boys and in girls doesn't exceed 5, that corresponds to «normal» anxiety level in children population. The detailed analysis of frequency rate of different anxiety levels showed that 17,2% of girls demonstrate «high» level (9–10) on general anxiety scale; there are no boys with high general anxiety level.

It is stated, that the main meaning in risk of declination development of pupil health state are medico-biological factors: prenatal period factors, intranasal period factors (течение, осложнения в родах у матери и плода), postnatal

period. Early child development factors and factors of life style: house-living conditions, family composition b psycho-emotional domestic surroundings, day regimen, frequency and quality of meals are also important in risk of declination development of pupil health state.

Conclusion: Thus, pupil sanogenetic status, shows the predominance of children with optimal or sufficient level of cardio-vascular (96–97%), respiratory (93–96%) and nerve-muscular system (100%) functioning, caused by positive influence of more active motion, its rational organization (sport group variety and possibility to choose, gyms etc.) combining with rational diet, herbal therapy.

28 THE INFLUENCE OF PARENTAL SMOKING ON THE INCIDENCE OF RESPIRATORY INFECTIONS IN CHILDREN UNDER SCHOOL AGE

Cavlek T., Mandac V., Cavlek M., Grsic K., Sturz B.

Background: Its aim.

Aim: Was to investigate the effect of parental smoking on the incidence of respiratory infections in children from birth to their enrollment in primary school.

Patients and methods: The study was conducted by a retrospective analysis of data from medical records of 1003 six year old children and by interviewing children parents during mandatory systematic review according to the Program of measures in Republic of Croatia. All children belonging to the same team of school physician upon enrollment in the school, from school year 1998/99 to 2001/2, in Maksimir quarter, in the city of Zagreb were covered. The incidence of diagnosed acute infections of respiratory tract was monitored.

Results: The results suggest that at preschool age in a total of 513 families, or even 51,15%, children were exposed to passive smoking; in 116 families mother was smoking, in 184 fathers, and in 213, both parents.

In the group of parent's non-smokers 31,02% children had respiratory infections at least once a year. In the group of parents who are smokers the incidence of respiratory infections was, 65,52% in children of mothers' smokers, 66,85% in the fathers' smokers and 74,65% of children both parents smokers, and the difference was statistically significant.

There was a connection between smoking parents with frequent respiratory infections in children, the largest odds ratio (OR) if both parents are smokers (OR 3.68), if only father is a smoker (OR 2.25) and only mother (OR 1.98). Greater chance of infection was in boys (OR 1.60) and also higher BMI in children enrolling in primary school (1.04). According to the study, the ratio of the probability of infections increased with lower educational status of parents who smoked more.

Conclusion: The impact of passive smoking on the incidence of respiratory infections in children, and early and late health and other general society consequences are important public health problem that requires constant preventive measures.

29 ALCOHOL EXPECTANCIES OF PERUVIAN UNIVERSITY STUDENTS

Chau C., Van Den Broucke S.

Background: Studies among college students generally reveal a high level of alcohol consumption as well as a high level of problematic alcohol use, particularly binge drinking. To address this problem it is important to investigate the determinants of students' alcohol use. Apart from social factors such as gender, SES, parental drinking and peer drinking, beliefs about the effects of alcohol have been found to play a major role in determining alcohol use. In this paper, we examine the alcohol expectancies of Peruvian students.

Aim: To test the hypothesis that alcohol expectancies contribute to the use and problematic use of alcohol in university students.

Patients and methods: A questionnaire study was performed involving 558 male and 523 female students enrolled at one public and two private universities in Lima, Peru. Alcohol consumption and problematic alcohol use were measured via an adaptation of Windle's (1996) Alcohol Consumption Survey. Alcohol expectancies were measured using an adapted version of the Alcohol Expectancy Questionnaire (AEQ-A; Chau et al, 2006), distinguishing between positive and negative personal and social experiences, and expectancies of cognitive and motor capacities.

Results: While students in the sample generally had positive expectancies in personal and social aspects of alcohol use, female students had more positive personal and social expectancies than male. Students from lower SES had the highest positive expectancies. Positive and negative personal and social expectancies were positively related to alcohol use, and positive expectancies to problematic drinking.

Conclusion: Beliefs about the effects of alcohol are related to alcohol use by students, and positive expectancies about personal and social effects contribute to problematic drinking. These expectancies should be considered in the development of alcohol prevention programmes for students.

30

SOCIAL DETERMINANTS OF ALCOHOL USE IN PERUVIAN UNIVERSITY STUDENTS

Chau C., Van Den Broucke S.

Background: College or university is the place where many young people they learn to drink alcohol. Studies among college students have revealed a high level of alcohol consumption and a high level of problematic use, particularly binge drinking. To address this problem it is important to investigate the determinants of students' alcohol use. In this paper, we examine the relationship between alcohol use of Peruvian students and factors in the social environment.

Aim: To document the prevalence of alcohol use and problematic alcohol use among Peruvian university students, and investigate the role of gender, SES, parental drinking and peer drinking as determinants alcohol consumption and problematic alcohol use

Subjects and methods: A correlation study was performed involving 558 male and 523 female students enrolled at three universities in Lima, Peru. Socio-demographic characteristics and alcohol use by peers and parents were measured using ad hoc questionnaires. Alcohol consumption and problematic alcohol use were measured via an adaptation of Windle's (1996) Alcohol Consumption Survey. Discriminant analysis was used to assess the contribution of social determinants to (problematic) alcohol use.

Results: With 82,2% regular drinkers, the results confirmed the prevalence of alcohol consumption found in the international literature. Male students reported significantly more problematic drinking (35%) than females (19,2%). Consumption was more prevalent on weekends. Students from higher SES used more alcohol and displayed more problematic drinking than students from lower SES. Male and female peer drinking also contributed to the frequency of alcohol use, and male friends' drinking to problematic consumption. Parental drinking influences the general consumption but does not predict the frequency or amount of drinking.

Conclusion: Gender, SES, parental drinking and peer drinking, are related to students' alcohol consumption and problematic drinking, and should be considered in the development of prevention programmes.

31

THE ROLE OF SOCIAL-HYGIENIC FACTORS IN DEVELOPMENT OF MUSCULOSKELETAL PATHOLOGY

Chekalova N., Matveeva N., Litvinova N., Kozinets A.

Background: The condition of the musculoskeletal system is influenced by social-hygienic factors, such as the ecologic situation, the educational level, educational conditions, material well-being, way of life, health related lifestyle, etc.

Aim: To identify social-hygienic factors affecting the pathology of musculoskeletal pathology (MSP).

Subjects and methods: The study of influence of social-hygienic factors on development of MSP is done with the use of questionnaire in 1907 schoolchildren (735 healthy and 1172 children with MSP).

Results: Children with MSP have worse living conditions, such as: lesser living space per family member and ventilation. More often they were shown particularly, they spent more time preparing homework, slept and walked less. The regime and feeding were in worse state in children with MSP than in healthy ones (in 1,2 and 1,4 times correspondingly). The physical activity was insufficient in the majority of schoolchildren with MSP: it was shown more often irregular attendance, release from the lessons of physical training and spending holidays in the city; more rare active games at the fresh air; the most part of the children did not do sport and did not condition themselves to the cold. The bad habits (smoking and using alcohol) also prevailed among children with MSP.

Conclusion: A significant influence of independent social-hygienic factors on the development of MSP in schoolchildren was shown in this study? The results will help to correct methodology of hygienic education.

32

STUDY OF THE LEVEL OF PHYSICAL DEVELOPMENT AMONG THE STUDENTS AS AN INDICATOR OF FUNCTIONAL RESERVE OF HUMAN FACTORS AND PREVENTION OF DEVIANT BEHAVIORS

Cheremushnikova I., Grivko N., Barysheva E.

Background: At present, significantly increased propensity of youth to the various deviations. Particularly acute this problem can be traced in the student community.

Aim: The aim of our study was to examine the dynamics of particular psycho-physiological status of high school students engaged in physical training and additional types of sports and athletic activities.

Subjects and methods: Automated software and hardware computer complex «NA-PsihoTest» firm «Neurosoft» Ivanovo. Simple visual-motor reaction (PZMR), tapping test, the determination of the reaction to a moving object (RMO).

Results: According to the results of tapping-test students with a good physical preparation the average frequency of stroke is maximum (2.91 Hz). There is a pronounced inertness of nervous processes in all three groups, which requires further intensive work on the lessons of physical education in high school. Indicators tapping test in physical development of students increased significantly with increasing fitness (the maximum value at the end of 4-year study). In the study of reactions to a moving object and response strategies identified: 37% – are using strategy lead, 32% – lag, 31% identified the exact reaction.

By 4 courses will increase the number of students with the number of accurate responses (38%) and decreased with the amount of the contingent reactions of delay (up to 23%).

Conclusion: As a result of regular training, expanding the functionality of apparatus rapidly formed psychomotor function, which indicates the improvement of the apparatus of motor programming, creating conditions for a successful adaptation of students to a high tempo and speed of movements necessary in modern life. However, maintaining such a high level of functioning of the central nervous system involves a student with high psycho-emotional stress.

33

FEATURES OF ADAPTATION OF FIRST-FORM CHILDREN TO REGULAR TRAINING OF VARIOUS SCHOOL PROGRAMS

Chistyakova I., Galaktionova M., Meshkova A.

Background: Among the factors affecting the health of children, special emphasis is given on schooling.

Aim: To study the functional abilities of the vegetative nervous and cardiovascular system of children during the adaptation period.

Subjects and methods: 89 children aged from 7 to 8 years old, living in the Krasnoyarsk were examined. The I study group consisted of 32 first-graders enrolled in the traditional program, the II group – 28 children were enrolled in enrichment programs L. Zankova, in the III group – 29 students were enrolled in developmental programs D. Elkonin and V. Davydov. Evaluation of the functional state of the parameters of the structure of cardiac rhythm and autonomic parameters was carried out using a computer program complex «ORTO Valeo».

Result: During the school year, the largest changes of autonomic parameters to the predominance of sympathetic influences were children involved in developing programs, which indicates that the voltage of adaptive-compensatory features. Voltage regulation systems due to the mismatch effects of the sympathetic and parasympathetic activity was found in 28,8% of first-graders in group I, 36,6% – II and 40,5% – III group. Regulation with an increased sympathetic influence was recorded at 25,0%, 12,7% and 30,5% of students respectively. Orthostatic test showed that the 53,5% children with normal transition process and the appropriate response were in I (53,5%). Among students in III group had more children with low response (52,7%). The highest percentage of children with a satisfactory course of adaptation was I group (50,0%), and the stress systems of the body in adapting to the learning process more frequently detected in children II (32,0%) and III (55,1%) groups. Poor adaptation occurred in 28,4% first grade II and 27,5% – III.

Conclusion: Regulatory systems tension, the limitation of the functional reserves of cardio-vascular system and prevalence of sympathetic tonic type of vegetative nervous system regulation was found out in children training on the developing program D. Elkonin and V. Davidov.

34

ISSUES OF EARLY DIAGNOSTICS AND PREVENTION OF BEHAVIORAL DISORDERS IN ADOLESCENTS AND YOUNG PEOPLE

Chubarovsky V.

Background: Nowadays there is an expansive growth of different forms of deviant behavior in Russian adolescents. The studies as a rule deal with the accountable contingent or are based on the data of the second resources. In this respect the study of behavioral disorders in the framework of the populated clinico-epidemiological examinations of the significant contingents of pupils presents a special interest.

Aim: To study the features of the prevalence and manifestation of different forms of deviant behavior in adolescents and young people.

Patients and methods: The united team of professionals carried out a medical examination of 856 students from Moscow colleges, schools and medical institute by means of the unitized methods for the assessment of psychical states. Psychopathological syndromes as well as the «premorbid states» were considered. The study included clinical and epidemiological methods, questionnaire survey and MMPI. Two age groups (ages 13–16 and 17–20) were compared.

Results: The study showed a significant prevalence of the occurrence frequency of deviant behavioral forms (F91.0–F91.9) in adolescents – 17,88 versus 8,27%. Syndromically circumscribed psychopathic states were authentically more often diagnosed in group 1–2,9% and in group 2–1,7%. Behavioral deviations were presented by the nonpathological forms in both groups and were recorded in individuals with the accented characterological features. It should be noted the presence of new forms of dependence during last years. They are: a pathological addiction with game machines, Internet-addiction, etc., which were always combined with neurotic disorders and in separate observations led to the origin of different forms of aggressive behavior.

Conclusion: The behavioral disorders with a high degree of the authenticity are often occurred in adolescents and combined with a higher prevalence of psychopathic syndromes. It needs a constant monitoring of mental state in this age group of students and the development of complex psycho-preventive programmes.

35

MONITORING OF CONDITIONS OF MENTAL ILLNESSES AMONG THE SCHOOL STUDENTS IN THE FRAMEWORK OF HISTORICAL RESEARCH

Chubarovsky V., Biryukova E.

Background: According to the European department of WHO (2007), 10–20% of teenagers in Europe have one or two problems with mental health or behavior. Data analysis of research held among Moscow students during last one hundred years showed difference in appearance of different forms of mental illnesses from 15% till 93%.

Aim: Studying the specificity of epidemiological data of dynamics of borderline mental pathology among teenagers.

Patients and methods: Medical research of 437 teenagers (aged 13–16) has been held in Moscow in the same institute every 20-year period. First period took place between 1987–1988; second period dated 2008–2010. Such methods of clinical, epidemiological, PDO (Lichko A. E. 1983) were used.

Results: Research showed a dramatic increase in mental disorders from 39,71% till 55,63% ($p < 0, 01$). Changes occurred due to the increase of neurotic conditions from 3,97% till 11,25% and psychopathic disorders – from 1,44% till 8,13%. Significant changes occurred in clinic forms of deviant behavior. Behavior disorders caused by forming sexual attraction were noticed among teenagers with psychopathic syndromes and among teenagers with accented features of character.

Conclusion: Borderline disorders among teenagers have a tendency to increase. Separate forms of deviant behavior have different clinic importance depending on historical and socio-economic conditions.

36

CAN WE HELP THEM TO FALL IN LOVE WITH THEIR PICTURE IN THE MIRROR CAN WE

Culina T., Andelic-Bres S.

Background: The relationship between improper nourishment, lifestyle and consequent nutritional status is one of the leading public health issues. They are closely associated with physical appearance. The experience of body is part of the general self-image and as such largely determines the behavior of the child.

Aim: This research is directed at determining the link between nutritional status, sex, age, sports activities, body image and levels of self-esteem.

Patients and methods: The study was conducted in Rijeka (Croatia) on a sample of 643 children at the age of 11, 16 and 19. We defined nourishment based on BMI and percentile curves. Other information is collected by questionnaire about dietary habits, sports activities, satisfaction with appearance and the way it changes, and with the scale of self-esteem.

Results: Normal weight is the highest among the sixteen years old girls (82,8%), but they are at that age most dissatisfied with their appearance (52,3% is satisfied) and most of them want to change their look by starvation and/or increased sports activity. Boys of all ages are more overweight than girls, but their number falls with maturity (from 38,0% to 31,0%). The same happens with their satisfaction with appearance, the older boys look more satisfied (78,1%) than the younger (68,1%). When trying to change their looks, boys of all ages usually chose increased sport activity.

Conclusion: These results suggest that there are still lots of problems with improper nutrition of adolescents, but also with disturbed self-image. It is therefore necessary to intensify work in the «Youth Centre» – open door counseling specialized in eating disorders where they will be consulted not only on proper nutrition, but also they will find support to create higher self-esteem and stronger personal capacities.

37

HPV AND MEDIA CONTROVERSY

Dabo J., Rovis D., Dragaszubalj N., Culina T.

Background: Youth sexual behavior and sexually transmitted diseases are getting a lot of media attention recently. Various media gave a lot of coverage to HPV infection and controversy about its vaccination. Vaccine is in use in Croatia since 2008.

Aim: of the work is to present information of HPV vaccination rates. Furthermore, we will present positive public campaigns intended to create favorable public attitudes and understanding about its necessity and associated health risks, but also negative media coverage which was present in the media at the same time.

Patients and methods: The study was conducted in period of 2008–2011. in 12 years old girls.

Results: In order to create favorable public attitudes and understanding of the new vaccine, series of forums and public lectures about vaccination for HPV (type 6, 11, 16, 18) were organized for parents and teachers in all elementary schools of City of Rijeka. A multidisciplinary team of school doctor, gynecologist and psychologist engaged in intensive public communication further, with round tables especially designed for target groups of health officers, local government stakeholders, social council and media. Vaccination was financed by City of Rijeka. In first year of vaccination (2008) 320 girls (48% of selected cohort) were inoculated. In the next year, rate dropped to 23% (158 girls). This was the case due to negative media coverage of the topic, various internet discussions with lots of inaccurate information and strong anti-vaccination lobby which advocated against it. In the current school year 210 girls were given the vaccination (32%) and vaccination is still in progress.

Conclusion: The role of media in health promotion is of extreme importance. Responsibility for health promotion and health education, especially in part that concerns attitude development, giving accurate health information and promotion of healthy lifestyles is not limited to health officers but of the whole community.

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IMPACT OF TRAINING LOADS ON THE HEALTH AND PSYCHOPHYSIOLOGICAL STATUS OF SCHOOLCHILDREN

Dagaeva Z., Milushkina O., Mukhamadieva S.

Background: Determination of changes in the state of the organism under the influence of students' academic load is extremely important due to the nature of adolescence, which is characterized by intense activity of all functional systems and mechanisms of regulation.

Aim: The aim of the study was to investigate the influence of environmental factors on health status and physical development of pupils in classes with biomedical profilization.

Patients and methods: Examine the health status and conditions of students learning process was based on 12 schools in Moscow and Moscow Region 4 schools (434 students, of whom 172 boys and 262 girls).

Research in the 24 classes showed that the weekly teaching load in all classes does not ensure a rational distribution of lessons in accordance with the curve of weekly performance for high school students, found excess of the total training load of 3–6 hours per week.

Results: The health status of schoolchildren was studied on the basis of the distribution of students by groups of health. The obtained data revealed that among students of biomedical classes in the first group of health are 9,5% of the students of classes 10th and 7,8% 11th grades; the second group of health include a 10th grades – 69,9%, in the 11th grades – 70,2%; the third group of health constitute 20,6% of tenth and 22,0% of students 11th grade.

To analyze psycho physiological status of schoolchildren had used a technique that allows identifying different degrees of chronic fatigue: the initial stage, light (visible) stage, expressed stage. In the dynamics of the second year of study in high school, fewer students with an initial stage of chronic fatigue and significantly increased the proportion of children with a noticeable (from 6,7% to 17,6%) and severe stages of chronic fatigue (from 4,0% to 27,5%).

Conclusion: The results can be due to various reasons, but more likely, and a heavy teaching load is high (in excess of the maximum permissible load, the improper distribution of items throughout the day and week).

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DEVELOPING INTERSECTORAL COOPERATION FOR PREVENTION OF ADOLESCENT ILLNESSES DURING INDUSTRIAL TRAINING BASED ON SYSTEM ANALYSIS OF THEIR NEEDS

**Danylenko G., Mezhybetska I., Ponomareva L.,
Kolpakova T., Kyraksa O.**

Background: To create conditions that allow children and adolescents fully realize their potential of health and to reduce the burden of preventable disease, it requires active participation of young people in solving incipient problems, accounting and analysis of their needs and actual for them health saving strategies.

Aim: Objective – to work out a system of feedback for implementation of intersectoral cooperation during the adoption of medical and preventative programs to support professional self-determination of adolescents.

Patients and methods: Methods – complex medical examination of 312 adolescents from 7 vocational schools, anonymous questioning about life-style and own methodology about estimation of risk factors.

Results: During analysis of health status of students was ascertained high pathological lesion (2103,7‰), which was substantially contradicting the adolescent's perception of their health. Diseases that were detected can severely restrict teenagers during learning a profession. Girl's health was worse than youngsters.

Insufficient formation of skills of adolescent's healthy life-style showed violations of the day regimen: a neglect of tempering procedures, the prevalence of passive forms of recreation. It was established that 26,5% of adolescents – smoked, 1,3% – regularly used drugs, 3,6% – daily drank alcoholic drinks.

During analysis of the internal picture of adolescents health found that 70% of girls and 50% of boys had a holistic view on the positive and negative factors affecting their health; the majority gave preference to health saving factors and only for 25,0% of girls and 40% of boys the leading role played health forming factors.

Conclusion: Summary: it was established that for a complete system of forming students' health it's necessary to provide them real health (prevention of the negative and formation of the positive effects), and development of system of active monitoring; using of «personal experience» and value orientation to health, support for «active response of the family».

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HEALTH PROMOTION COURSE FOR STUDENTS OF FACULTY OF ELEMENTARY AND NURSERY SCHOOL TEACHERS TRAINING

Darvai S., Kulin E., Bihari-Kreko I., Vastag-Bauer Z., Bukovics-Nagy J.

Background: The Research Programme «Health Promotion between 3–12 years of age» was founded with the purpose of increasing the efficiency of health promotion in nursery and elementary schools.

Aim: Our aim is to improve the skills needed for health promotion and the methodological expertise of teacher students.

Patients and methods: 134 students were involved in the programme.

I. Improving the competences necessary for acquiring new knowledge.

The concept, aims, scenes and methodologies of health promotion. The health status during childhood and adulthood in EU member states, with special regard to Hungary. Overview of the international and national documents related to health promotion, and presentation of the underlying laws. The guidelines of designing and evaluating a health promotion programme. A survey of the health behavior and health related knowledge of nursery and elementary school teacher students.

II. Improving the competences related to employing knowledge and professional attitudes towards children aged 3–7 and 7–12 years.

Preparation for pursuing activities related to health promotion in the course of working in nursery and elementary schools. Our programme, which was based on the holistic approach to health, was evaluated by interactive methods. We applied a cooperative technique in the following topics: self-knowledge, scale of values, sensitivity to problems, decision-making, conflict-handling, prevention of addiction, and healthy nourishment.

Results: Assessment of the health status of the students. Learning the up-to-date methodologies of health promotion. In the essays submitted at the end of the course an attitude change towards health was observed.

Conclusion: The health promotion programme of the institute was evaluated by a guideline reflecting elements of the holistic approach to health.

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HEIGHT-FOR-AGE CHARTS FOR SURINAMESE SOUTH ASIAN CHILDREN AND SECULAR CHANGES IN GROWTH

De Wilde J., Van Dommelen P., Van Buuren S., Middelkoop B.

Background: South Asian people have a higher risk of cardiovascular and metabolic diseases than most other ethnic groups. Growth in childhood and body composition play an important role in the development of these diseases. To assess growth of South Asian children properly ethnic-specific growth charts are needed.

Aim: Aim of this study was to construct height-for-age charts for Surinamese South Asian (SSA) children living in the Netherlands and to investigate secular changes in height.

Patients and methods: In total 6876 measurements of height in SSA children between 0–21 years were cross-sectionally collected in 2008–2010. Also 10575 height measurements of a SSA cohort (born 1974–1976) were extracted from records of Youth Health Care in the city of The Hague (the Netherlands). Growth charts for both groups were constructed with the LMS method.

Results: SSA boys were on average 2 cm shorter than Dutch boys until 13 years of age. Adult height was on average 174 cm, which is 10 cm below the mean of Dutch boys. Growth charts of boys suggest early maturation. Girls are on average 2 cm shorter than their Dutch counterparts until 10 years of age. With an adult height of 160 cm they are 11 cm shorter than Dutch girls. Mean age at menarche was 11.4 years, which is 1.75 years earlier than in Dutch girls.

Adult height of SSA boys has, compared with 1974–1976, increased 2 cm and in girls 1.5 cm, while a secular trend of increasing height in Dutch children (Growth study 2010) has stopped.

Conclusion: SSA children attain an adult height 10–11 cm shorter than Dutch children and mature on average 1.75 years earlier. Early maturation may partly explain the large differences in height, but the differences with Dutch children gradually decrease.

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PERSISTENCE OF LOWER MEAN BIRTHWEIGHT AND HIGH PREVALENCE OF LOW BIRTHWEIGHT (< 2500G) IN SURINAMESE SOUTH ASIAN BABIES IN THE NETHERLANDS

De Wilde J., Middelkoop B.

Background: South Asian babies in developed countries everywhere around the world tend to be shorter, lighter and less muscular at birth than babies from most other ethnic groups. Low birth weight < 2500 g (LBW) is also more prevalent.

Aim: If the lower birth weight is indicative of adverse socio-economic circumstance we would expect a rise in successive generations. Aim of this study is therefore to investigate secular changes in birth weight, LBW prevalence and small-for-gestational-age (SGA) prevalence in Surinamese South Asian (SSA) babies in the Netherlands between 1974 and 2009 and study differences between first and second generation SSA mothers.

Patients and methods: Birth characteristics (gestational age, birth weight, birth length, birth order, and birth country of the mother) of 2014 SSA babies in three birth cohorts, 1974–1976, 1991–1993 and 2006–2009 were compared. 3104 Dutch babies, born 2006–2009, formed the reference. SGA was defined as a birth weight < P10 for gestational age.

Results: No secular trend of increasing birth weight in Surinamese South Asian babies was found, nor an increase of birth weight in successive generations. LBW prevalence is 13,3%, which is 2–4 times higher than in Dutch children. SGA rates (27,7–35,0%) are 3–4 times higher than in Dutch babies. When using an ethnic specific reference for SGA no significant difference exists between Dutch and Surinamese South Asian babies. The shape of the SSA birth weight distribution is 400–450 grams shifted to the left compared with the Dutch.

Conclusion: Because of the stability of birth weight and the left shift of the birth weight distribution in SSA babies, we conclude that the lower mean birth weight may actually be a normal birth weight for this group. Attempts to increase the birth weight may be harmful as it may also increase cardio metabolic risks.

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PERSISTENCE OF HIGH PREVALENCE OF THINNESS, AND INCREASE IN OVERWEIGHT AND OBESITY PREVALENCE IN TWO GENERATIONS OF SURINAMESE SOUTH ASIAN CHILDREN

De Wilde J., Zandbergen-Harlaar S., Middelkoop B.

Aim: To examine trends in prevalence of (extreme) thinness, overweight and obesity in two birth cohorts of Surinamese South Asian children in The Hague (the Netherlands), born 1974–1976 and 1991–1993 (respectively before and during the obesity epidemic).

Patients and methods: Design: Historical cohort study. Participants: 961 children born 1974–1976 and 1054 born 1991–1993 with 4350 routine height/weight measurements.

Main outcome measures: Prevalence of extreme thinness, thinness, overweight and obesity according to international BMI cut-offs; BMI-SDS accords to World Health Organization (WHO) Growth Reference.

Results: The BMI-SDS distributions of both cohorts generally show a left shift compared with the WHO reference but a larger spread. The prevalence of extreme thinness and thinness between 1974–1976 and 1991–1993 has decreased significantly, but remains relatively high. Simultaneously overweight and obesity prevalence increased strongly (table 1). There are no large sex differences in prevalence rates.

Table 1 Weight class prevalence's

	Cohort 1974–1976	Cohort 1991–1993
	Weight class % (n)	
Extreme thinness	13,5 (271)	7,8 (183)
Thinness	22,9 (459)	16,1 (378)
Normal weight	57,4 (1152)	58, (1368)
Overweight	5,3 (106)	11,7 (275)
Obesity	0,9 (18)	6,0 (140)

Conclusion: Surinamese South Asian children in cohort 1974–1976 show a high prevalence of (extreme) thinness and a low prevalence of overweight and obesity. The obesity epidemic has had a strong influence on the weight class distribution, but thinness prevalence remains high. Because of a left shift of the BMI-SDS distribution in South Asian children and because BMI cut-offs for overweight and obesity in Asian adults are already lowered, we recommend the development of (lower) BMI cut-offs for thinness, overweight and obesity in (South) Asian children too.

44 IDENTIFICATION OF PSYCHOSOCIAL PROBLEMS AMONG PRE-SCHOOL CHILDREN: A COMPARISON OF THREE SHORT QUESTIONNAIRES TO DETECT PSYCHOSOCIAL PROBLEMS

De Wolff M., Theunissen M.

Background: Good questionnaires are essential to support the early identification of children with psychosocial problems in community based setting.

Aim: Our aim was to assess which of three short questionnaires was most suitable for this identification among pre-school children. This was investigated among parents of children aged 36 and 45 months.

Patients and methods: A community-based sample of 745 parents of children aged 36 months and 500 parents of children aged 45 months completed the Child Behavior Checklist (CBCL), the Ages and Stages Questionnaire-Social Emotional (ASQ-SE) and – randomly determined – the Strengths and Difficulties Questionnaire (SDQ) or the KIPPPI. The KIPPPI is a Dutch-origin questionnaire. Preventive Child Healthcare professionals assessed children's psychosocial functioning during routine health examinations. We assessed the internal consistency (Cronbach's alpha), validity (sensitivity and specificity) and the degree to which they could improve the identification based only on clinical assessment.

Results: For the three questionnaires, Cronbach's alphas varied between 0.78 and 0.80 (36 months) and between 0.75 and 0.79 (45 months). Sensitivities for a clinical CBCL at a cutoff point with specificity = 0.90 varies between 0.47 and 0.85 (36 months) and between 0.53 and 0.62 (45 months) for the three questionnaires. Areas under the Receiver Operating Curve, using the CBCL as criterion, varied between 0.83 and 0.93 (36 months) and between 0.84 and 0.92 (45 months). All three questionnaires added information to the assessment. Odds ratios (95% confidence intervals) for added information for 36 months were SDQ: 28.7 (10.3–80.1), KIPPPI: 4.8 (1.9–12.0) and ASQ-SE: 7.2 (3.7–14.0). Odds ratios (95% confidence intervals) for added information for 45 months were SDQ: 36.6 (8.4–159.2), KIPPPI: 9.3 (3.7–23.4) and ASQ-SE: 8.7 (4.2–18.1).

Conclusion: Each of the three questionnaires can improve the detection of psychosocial dysfunction among pre-school children substantially.

45 CHILDREN WITH CANCER AT SCHOOL: DIFFICULTIES AND OPPORTUNITIES WITH REGARD TO LEARNING AND EDUCATIONAL PARTICIPATION

Deboeck F., Vantrimpont I., Tollet S., Petry K.,
Hoppenbrouwers K.

Background: Due to progress in cancer treatment, survival rate of children with cancer increased resulting in a growing population of survivors. As soon as possible after diagnosis, children should go back to school since school participation is important for educational progress and psychological and social health.

Aim: Aim of this study was to evaluate: (1) difficulties (educational, physical, psychological, socially) experienced by children with cancer at school, (2) school participation during disease and support given by the school and (3) communication between child/parents and school.

Patients and methods: A disease-specific questionnaire was developed, based on existing Quality of Life Questionnaires. In 2010, parents of children (aged 3–19 years) with cancer treated in the University Hospitals of Leuven, received information. After informed consent (and assent for children ≥ 12 years), parents and children (≥ 12 years) received a questionnaire.

Results: From 46 parents and 26 children (≥ 12 years) a completed questionnaire was received. Eleven parents (24%) reported an impaired educational progress due to the illness. Psychological and social well-being was mostly reported as very good, although disease-related bullying was reported by 21,4% of the parents and 12,5% of the children. On average, the initial school absence after starting major cancer treatment was 7 months. In this period, all children were supported by school and classmates if necessary and possible. Classmates were informed in 93% of the cases, 69,7% of the parents reported that the school received enough information about the disease of their child.

Conclusion: Childhood cancer patients are well supported during their school absences, yet educational progress is often impaired. Children and parents don't report a lot of problems (physical, psychological and social). Still, successful re-entry to school is not obvious. Accurate information and keeping teachers and classmates involved is of crucial importance to optimize school reintegration.

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THE INFLUENCE OF WORKING POSTURE ON THE DEVELOPMENT OF POSTURAL DISORDERS IN SCHOOLCHILDREN

Degteva G., Degtev S., Fedotov D.

Background: Violation of posture is one of the most frequent functional disorders in children of primary school. So creation of optimal hygienic conditions of learning by equipping schools ergonomic furniture is particular important.

Aim: Hygienic assessment of the benefits of using one-model school desk with armrests over the traditional «desk-chair».

Patients and methods: A comprehensive study on the effect of working posture on functional, psycho-physiological status of pupils and their level of health depending on the model used school furniture: a single student's desk (design patent number 46,951 from 16.03.2000); student set of furniture (desk-chair).

Investigation of working postures performed in 1120 students 1–4 grade schools in the city of Arkhangelsk, a student involved in furniture desk-chair; goniometric studies and a comprehensive health assessment in the dynamics of the whole period of schooling – at 52 pupils.

Results: A specific measurement of student furniture that doesn't meet hygienic requirements according with body length in schools in Arkhangelsk is 49,5%. From the number of children per furniture table-chair when according to their height indices remain in the correct posture in the learning process only 12,5%, while using a new model of school desks – 87% of the students.

In a detailed mathematical analysis of the results postural activity of students during training sessions revealed a favorable trend toward postponement of time of the onset of fatigue in children involved in the new model school desk, which provides that the basic ergonomic principles.

During the study period with 1–4 the number of violations of the posture of pupils studying for a set of table-chair, has increased by 19,2%, while the students involved in school desk with armrests – by 3,5%.

Conclusion: Providing students rational furniture, satisfying the physiological and hygienic requirements, reduces fatigue and the development of postural disorders among pupils in 5 times.

47 THE ROLE OF MILK AND DAIRY PRODUCTS IN PUPILS' NUTRITION

Degteva G., Antsiferova O.

Background: Milk and dairy products are the most important source of valuable proteins, low-molecular fat acids, phospholipids, calcium, phosphorus, magnesium, vitamins of B group, especially riboflavin, vitamin A and D. Insufficient consumption of dairy products in childhood and juvenile age, especially in the period of intensive growth (6–9 and 12–15 years) leads to delay of children's growth and physical development, negatively affects on bones mineralization, causes the osteoporosis and osteomalacia in the future. Dairy products are the unique source of lactose, which is necessary for forming of positive microflora in child's organism.

Aim: To study the dairy products role in pupils' nutrition.

Subjects and methods: We have investigated the structure of dairy products consumption of pupils in Arkhangelsk schools in the period from September to November 2009. During the research 576 children (119 girls and 96 boys of middle school age and 204 girls and 157 boys of juvenile age) were questioned.

The results of questionnaire were processed by computer program «The analysis of nutrition status» developed by Russian Institute of Nutrition.

Results: About half of the questioned boys and girls consumed milk or other dairy products from 4 to 6 times per week, 42,7% boys of 11–13 years, 48,4% boys of 14–18 years, 55,5% girls of 11–13 years, 59,3% girls of 14–18 years. The analysis of daily menu of pupils has shown the nutritional lack of calcium and vitamins, especially riboflavin and vitamin A.

The experience of School Milk program in primary school has shown the great importance of taking milk and dairy products on daily basis for the health of children. No lack of above-mentioned nutrients is observed in the group of pupils who participate in School Milk program.

Conclusion: Therefore the research demonstrates the necessity of inclusion 200 g of milk and dairy products into daily diet in addition to school breakfast.

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SEXUALLY TRANSMITTED DISEASES

Deroy R., Goddeeris C., Sisk M., Talboom I.

Background: Infections such as Chlamydia, genital warts and herpes are common among students. But we also see an increasing prevalence of Gonorrhoea and Syphilis in our practice. The same evolution can be seen in general population in Belgium.

Aim: We investigated the evolution in prevalence of the different types of STD. We examined which STD should be tested routinely, which screening tests should be used by the GP and we defined the optimal treatment.

Patients and methods: In a retrospective investigation we examined the evolution of the incidence of STD in a population of university students. Therefore we collected all available information recorded in our medical files during the last 10 years.

In order to check if these results are in line with the evolutions in the general population, we compared our results with extensive regional and national data provided by our local laboratory and health authorities.

Results: We see an increasing prevalence of Gonorrhoea and Syphilis among students at the Catholic University of Leuven. The same tendency can be seen regional and nationwide. A few years ago, these infections were still rare in Belgium.

We also determine a rising resistance of Gonorrhoea for Quinolones.

Conclusion: Prevention of STD is the most important. At the medical centre of the KU Leuven we try to make students aware concerning the problem. We designed our own brochure and try to discuss the problem on any possible occasion.

Also early detection of STD is vital. In our research we discuss screening and treatments by type of STD.

49 THE DEVELOPMENT OF A GUIDELINE FOR TOILET TRAINING AND INCONTINENCE

**Deurloo J., Beltman M., Vanleerdam F., Wierenga C.,
Bulk A., Fleuren M., Kamphuis M.**

Background: Toilet training is the mastery of skills necessary for urinating and defecating in a socially acceptable time and manner. This is one of the major developmental milestones for children. While the majority of children are toilet trained without incident, approximately 2 to 3 percent experience an adverse outcome. Common adverse events are enuresis nocturna, play-enuresis, fecal incontinence, stool toileting refusal, and stool withholding.

The Dutch Youth Health Care (YHC) centres can prevent and detect incontinence and play a role in guidance during their consults from 0–19 years of age. Several national and international guidelines were developed for this topic.

Aim: Our goal was to develop a national YHC guideline for toilet training and incontinence.

Patients and methods: Based on national and international guidelines, literature searches and experience, an YHC guideline for toilet training and incontinence was developed and piloted for use in daily practice by YHC professionals. The resulting guideline is approved by the national YHC guideline advisory committee.

Results: The guideline gives preventive practical recommendations for toilet training advice. Also, if incontinency is developing or has developed, the guideline describes how to counsel and treat the child and its parents.

The pilot in daily practice resulted in several important determinants for national implementation of the guideline, which will take place in 2011.

Conclusion: The YHC guideline for toilet training and incontinence will help YHC workers in the prevention and treatment of incontinency, based on the best available evidence, consensus and experience.

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WHAT IS THE UTILITY OF PARENT REPORTS IN DEVELOPMENTAL SURVEILLANCE OF INFANTS AT RISK?

**Devogelaer N., Decock P., Roelants M., Vanleeuwen K.,
Desoete A., Hoppenbrouwers K.**

Background: Developmental surveillance by means of parent report is likely to provide different answers than formalized ‘assessments’ of a child, performed by a developmental professional. The value of parent report in developmental surveillance of high-risk infants has not been investigated thoroughly.

Aim: To compare the score of the motor items of a parental questionnaire (Ages and Stages Questionnaire (ASQ) at the age of 8 months with the results of the Alberta Infant Motor Scale (AIMS), Erhardt Developmental Prehension Assessment (EDPA) and Nickel’s Infant Motor Screen (IMS) at the age of 7–10 months, according to the risk profile of the child.

Subjects and methods: In the framework of a birth cohort study, about 3000 babies born between May 1st 2008 and April 30th 2009 in nine selected Flemish regions were included for longitudinal follow-up of health, behavior, development, education and need for care. Of the included children, 220 were randomly selected for an in-depth investigation at the age of 7–10 months, including additional questionnaires (ASQ) and developmental assessment by professionals. In addition, 161 «vulnerable» children meeting pre-defined criteria were investigated following the same study protocol.

Results: Overall agreement for the gross motor score of the ASQ and the AIMS at the age of 8 months (Cohen’s Kappa) is 0.181, Spearman’s rank correlation coefficient (ρ) 0.425, sensitivity (co-positivity) for the ASQ 39,4%, specificity (co-negativity) 77,7%, positive predictive value 36,6% and negative predictive value 79,7%. We will discuss the same figures in the different risk groups as well as factors influencing the agreement and results of the fine motor score.

Conclusion: With regard to developmental difficulties, it is important to realize that parents are the world’s experts on their children. Professionals need to be aware of possible biases toward interpreting developmental or functional differences in infants as evidence of developmental pathology, especially in high-risk populations.

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INTERACTION OF GENETIC FACTORS IN THE PHYSICAL, COGNITIVE AND BEHAVIOURAL DEVELOPMENT OF CHILDREN: DEVELOPMENT OF DESCRIPTIVE SHEETS

Devos C.

Background: Knowledge of these implications is useful to teachers and caregivers, and to the parents of these children.

Aim: Development of descriptive sheets which give, in a systematic manner, information about the genetic cause, the physical characteristics, the impact on behavior and on learning of a set of syndromal disorders. Tips are proposed for approach and guidance. A short literature list and a drawn illustration of some characteristics of the syndromal disease are given.

Patients and methods: Information derived from biennial medical observations and examinations of children enrolled in special education schools.

The study of individual medical and neuropsychological reports, concerning a diagnosis or assessments of the problems.

A review of literature on syndromal disorders.

Results: Description of the implications of 45 syndromal diseases. Boys with Klinefelter syndrome and language based learning disabilities, co morbid frontal executive dysfunction and social cognition problems;

- Girls with Turner syndrome and relative weaknesses in visuospatial functioning, which hormonal therapy improves;
- Boys with a Duchenne muscular dystrophy and a reference to the 'Learning and Behaviour Toolkit' of the Parental Project UK (PPUK);
- Children with Velo-cardio-facial syndrome, poor visuo-spatial short-term memory and poor attention and executive functioning, with a contra-indication for the use of methylphenidates, and the frequent need of adolescents for support and guidance by a child psychiatrist;
- A child with hearing loss caused by the syndrome of Waardenburg with depigmentation spots on the skin that have to be differentiated from old burn scars.

Conclusion: The sheets can be a support in educational interventions, f.e. for preparing an individualized education program (IEP) and can be useful in the orientation towards study and lifestyle opportunities.

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ROLE OF SCHOOL NURSE IN HEALTH PROTECTION OF SCHOOLCHILDREN

Dobruk I., Sapunova N., Drach T.

Background: Schoolchildren's health state is largely formed under the influence of the conditions and organization of education. Negative effect of educational factors on health state of pupils requires improvement of medical assistance for schoolchildren.

Aim: Complex, dynamical supervision of pupils' health state by means of annual profound medical examinations of children in grades 1, 5–6 and 11.

Patients and methods: School can and must provide the optimal conditions of intraschool environment as well as to help a pupil change the behavior and attitude towards his/her health. Medical service of the gymnasium just does it. The gymnasium has been realizing the programme on prevention and health protection for children since 2000.

Results: The nurse gives parents the recommendations on the further examination, treatment, prevention and correction of life style of a child according to the detected deviations, teaches the parents to the complexes of therapeutic exercises, self-massage, gymnastics for eyes, hygienic rules and rational regime of load for lower limbs with the defect of formation of arch of foot.

The nurse carries out a preventive massage for the pupils with the disorders of locomotor apparatus. Each class of elementary school has a lesson of exercise therapy once a week. The nurse controls the correctness of school furniture for pupils according to their height.

To decrease the risk of vision disorders in pupils the nurse gives teachers the recommendations on classroom seating for children; controls the abundance of the requirements for light regime. The children with premiopia, spasm of accommodation and myopia are provided by healthful procedures on ophthalmological conveyer.

Conclusion: The assessment of the programme on prevention and health protection of pupils showed its efficiency: the functional indicators had been improved; the prevalence of chronic diseases and the number of functional deviations of eye and its subordinate set had been authentically decreased.

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OPINION OF PARENTS ON THE PROBLEM OF DISEASE OF THE ESSENTIAL ARTERIAL HYPERTENSIA OF THE TEENAGE POPULATION

Dolgix V., Kulesh D., Fomina N.

Aim: Studying of opinion of parents about a problem of disease of an essential arterial hypertension (EAH) at teenagers was a research objective.

Patients and methods: Poll was spent among parents of pupils 9, 10, 11 classes of schools of Irkutsk. For this purpose we had been developed the questionnaire of poll of parents about a problem of disease of an essential arterial hypertension and its risk factors causing. In total 276 respondents have been interrogated.

Results: During ours research is revealed that 91,6% of parents recognize the responsibility for health of the child. Despite this majority of the interrogated have specified in presence of the risk factors causing EAH at children. So, 33,3% of teenagers have defects in a food, and 45,8% use plentifully salted food. Thus 62,5% interrogated consider that their child is subject to stress, 19,1% – that the teenager daily has deficiency of impellent activity. Besides, the example of the adult with the pathological form of behavior has each 33,5% of teenagers before itself.

Only 70,8% interrogated pay attention to importance of problem EAH, 25,0% supervise level of arterial pressure at the child, 29,2% carry out primary preventive maintenance.

At studying of knowledge of adult population about EAH, it is revealed that all respondents heard about the given disease, the information on its possible complications and consequences only 45,8% interrogated, about preventive maintenance – 37,5% thus own. Thus, among the basic sources of the information parents have specified mass media (70,8%), is more rare – school doctors (16,6%) and local pediatrists (37,5%).

Conclusion: The obtained data says that features of conditions and a way of life of teenagers and their parents can make negative impact on a rising generation state of health, including on development and current EAH.

54 THE COMPLEX FOR REHABILITATION OF HIGH INTELLECTUAL ADOLESCENTS WITH PSYCHOSOMATIC DISORDERS

**Dolgix V., Richkova L., Nemova S., Rodionova A.,
Peskov V.**

Background: To date an attention to gifted children observed to be very high. A lot of specialists concern to its education, research and further evolution.

Patients and methods: We observed 112 adolescences of 14–17 years old. 3 groups were formed as a result of complex of psychological evaluation. The 1st is gifted persons with realized intellectual potencies ($n = 32$). The 2nd is gifted persons who don't realized their intellectual potencies ($n = 40$). The 3rd is control group of adolescences who have mild intellectual potential ($n = 40$).

Results: On the base on received data we concluded that the most gifted adolescences had disharmonic development. 31,3% of its were more suffered infectional diseases, 23,6% had autonomic disorders, 75,8% had an arterial hypertension and syncope (15,6% and 12,5% respectively). Moreover, they more frequently have allergy, gastrointestinal pathology, skeletal disorders and dystrophies (hypotrophy or obesity) in compare with the control group. All of noted deviations we observed both in the 1st and in the 2nd groups. On the base of these results we evaluate and apply to our practice a system of rehabilitation of high intellectual adolescents with psychosomatic disorders that include a combination of different medico-psychological methods.

Conclusion: Application both team and individual rehabilitation programs results to significant decrease frequency of main psychosomatical disorders in this patients.

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**JUVENILE VIOLENCE, FORMS OF VIOLENCE,
DIFFERENCES IN VIOLENT BEHAVIOUR
IN BOYS AND GIRLS- CASE REPORT**

Dragaszubalj N., Buricmodrcin J., Modrcin D., Dabo J.

Background: Violence is any form of aggressive behavior against oneself, another person or against the property. Juvenile violence can cause significant consequences in areas such as neurological and intellectual development, school success and life expectations, socio-emotional development, social relations and behavior, i. e. in mental health in general.

Aim: The purpose of this case report was to present forms of youth violence and existing differences in violent behavior between boys and girls.

Patients and methods: Case report of an example of peer violence against the girl, as well as of an example of domestic violence against a boy.

Results: Violence against girl was committed by classmates, whose violent behavior was expending and amplifying, from the initial verbal direct and indirect, through the emotional violence to physical, including sexual violence with the use of electronic media. In case of boy, domestic violence turned him into violent person exerting primarily physical violence in his environment.

Conclusion: Forms of violence are very diverse with noticeable gender differences, as demonstrated in our case report. There are some study findings that gossip as an indirect form of aggression is more common form of violence used by girls, while boys are more likely to use direct violence such as physical assault. According to some authors the reason for these gender differences lies in the nature of peer groups of boys and girls. It is believed that girls are more focused on relationships with friends, their friendship being more.

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THE THYROID GLANDULE AND ALLERGIC DISEASES IN TEENAGERS LIVING IN THE CONDITIONS OF THE COMBINED IODINE DEFICIENCY AND ENVIRONMENTAL POLLUTION

Dzhumagaziev A., Bezrukova D., Savenkova N., Petrova N.

Background: It is proved that goiter transformation in children influences the risk of allergic diseases. The study of connection between thyroid glandule and allergic diseases will allow predicting the development of atopic pathology, selecting the complex approach on its treatment, and motivating the efficient preventive maintenance.

Aim: to access the connection of the thyroid glandule and allergic diseases in teenagers living in the conditions of the combined iodine deficiency and environmental pollution.

Patients and methods: The primary morbidity and prevalence of thyroid glandule diseases (diffuse endemic goiter, multiple (single) nodal goiter, subclinical goiter, thyroiditis, thyreotoxicosis) and allergic diseases: bronchial asthma (BA), allergic rhinitis (AR), atopic dermatitis (AtD) on the past 9 years (from 2000 to 2008) in teenagers (15–17 years) of Astrakhan region. The coefficients of double correlation (r) were calculated for establishing the intensity of connection between the prevalence of thyroid glandule and allergic diseases.

Results: We revealed the significant growing of thyroid glandule diseases (diffuse endemic goiter, multiple (single) nodal goiter, subclinical goiter, and thyroiditis) and allergic pathology in teenagers. The strong positive associative relationship of allergic diseases with pathology, connected with iodine deficit was found. Thus, the strong reliable positive relationship was found between the prevalence of diffuse endemic goiter and BA ($r = 0,93$), subclinical hypothyroidism and BA ($r = 0,76$), diffuse endemic goiter and AtD ($r = 0,95$), multiple (single) nodal goiter and AtD ($r = 0,92$), subclinical hypothyroidism and AtD ($r = 0,80$), thyroiditis and AtD ($r = 0,62$).

Conclusion: The strong relationship between the pathology of thyroid glandule and allergic diseases may be the result of similar disadvantage factors action. In this connection, it is necessary to deepen studies directed to discovering the relationships between environmental contamination, iodine deficiency and allergic diseases.

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**THE PREVALENCE OF ALLERGIC DISEASES
IN TEENAGERS LIVING IN CONDITION
OF THE IODINE DEFICIT AND DRINKING WATER
CONTAMINATION**

**Dzhumagaziev A., Bezrukova D., Savencova N.,
Petrova N.**

Background: At present there is not enough information about the influence of water pollutants on the prevalence of bronchial asthma, allergic rhinitis, atopic dermatitis in children and teenagers.

Aim: to assess the influence of water pollution on prevalence of allergic diseases in teenagers, living in condition of the iodine deficit and contamination of drinking water.

Patients and methods: The prevalence of bronchial asthma (BA), allergic rhinitis (AR) and atopic dermatitis (AtD) in teenagers (15–17 years old) living in Astrakhan region from 1997 to 2008 was studied and compared with the levels of major contaminants in drinking water. The coefficients of Spearman correlation (r) were calculated.

Results: the strong positive correlation of AtD with presence of iron in drinking water was estimated ($r = 0,73$; $p < 0,01$). The morbidity of allergic rhinitis correlated with general microbe quantity ($r = 0,64$; $p < 0,05$) and titrated coli-bacteria ($r = 0,72$; $p < 0,05$). It was also founded the connection of bronchial asthma with general microbe quantity ($r = 0,66$; $p < 0,05$), general coli-bacteria quantity ($r = 0,75$; $p < 0,05$) and sulfates ($r = 0,59$; $p < 0,05$).

Conclusion: The contamination of drinking water may cause the development of allergic diseases beside teenagers in Astrakhan region.

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**HYPERPLASIA OF THYROID GLANDULE
IN SCHOOLCHILDREN SUFFERING
FROM BRONCHIAL ASTHMA**

**Dzhumagaziev A., Bezrukova D., Shelkova O.,
Myasisheva A., Savenkova N., Petrova N.**

Background: The disturbance in hypothalamus-pituitary gland-adrenal system is one of the sections in the process of the formation of allergic reaction. There are data about disturbances in thyroid gland among children suffering from bronchial asthma (BA).

Aim: to access the disturbances in thyroid gland among children suffering from BA and living in the conditions of the combined iodine deficiency and environmental pollution.

Patients and methods: 60 schoolchildren aged 13–14 years (30 with BA and 30 healthy) had their thyroid glands studied ultrasonically. Blood levels of thyroid gland hormones (thyrotropic hormone, thyroxine) were identified for children in both groups.

Results: The analysis of thyroid gland pathology in schoolchildren with BA has revealed the more frequency of diffuse endemic and multiple (single) nodal goiter ($p < 0,05$), decreasing of thyroid gland functional activity.

Conclusion: The results of our studies about frequency of thyroid gland pathology in schoolchildren with BA living in Astrakhan region dictate the need of the mass iodine preventive maintenance among schoolchildren, as well as necessity of complex (with iodine drugs) treatment of bronchial asthma, directed to removal accompanying iodine deficit.

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COMPONENTIAL STRUCTURE OF THE BODY IN THE ESTIMATION OF PHYSICAL DEVELOPMENT OF CHILDREN 5–18 YEARS

**Edleeva A., Khomich M., Leonova I., Bogdanov V.,
Volkov N.**

Background: Assessment of nutrition is an integral part in determining the child's health. The clinical method based on an estimation of the anthropometrical data is used for an estimation of physical development of children. All children can be divided into 3 groups: the children who are overweight, normal and underweight. However, this method doesn't give interpretation of infringements of structure of body weight (deficit/surplus at the expense of water, muscle mass, body fat) in this connection there is a necessity of use of systems of an estimation of componental structure of a body, for example, bioimpedansometry.

Aim: The purpose is definition of value of the component body composition in assessing the physical development of children 5–18 years old.

Patients and methods: Physical development by the clinical method and the component body composition by bioimpedance analysis (bioimpedansometr to analyze the internal environment «Diamant-AIST», «Diamant», St. Petersburg) were assessed in 180 children 5–18 years in 2008–2010.

Results: At an estimation of physical development by a clinical method 53% of children had normal body weight, 33% of children were overweight, 14% – underweight. All children with insufficient weight of a body had insufficient weight of a fatty component. 90% of overweight children had excess fat mass, other children (10%) had excess body weight was caused by excessive muscle component. The most interesting was a group including children with normal body weight from which only 10% had a normal rate of a fat component while children with the superfluous and insufficient maintenance of fat in an organism were about identical quantity (accordingly 43% and 47%).

Conclusion: At an estimation of physical development of children 5–18 years old expediently additionally to use bioimpedansometry as an exact, simple and convenient method of an estimation of componental structure of a body.

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DYSPLASIA OF THE CONNECTIVE TISSUE AND HEALTH PRESERVING

Eremin M., Nikulina G., Andreeva E.

Background: Extending of congenital disorders of connective tissue (CT) on type of it dysplasia among young is 25–35%, and among teenagers in unfavorable regions – up to 60%. Because of its universality CT at it congenital disorder can take part in development of different diseases, in particular, neuro-circular dystonia (NCD). On the other hand, it is proved that synthesis the structures of CT at its dysplasia put conditions to magnesium deficit.

Aim: To estimate representation dysplasia of connective tissue (DCT) and its connection with magnesium deficit, NCD, level of stress-stability and also effect of substitute magnesium therapy at medical students.

Patients and methods: It is examined 78 students with help of phenotypical analysis of external stigmas dysembriogenesis, level of stress-stability, ECG-load-tests and intracellular magnesium. The efficiency of substitute magnesium therapy with Magnerot (magnesium orotic salt) was estimated by results of stress-stability, ECG-load-tests. Results of analysis elaborated by packet program STATISTICA version 6.

Results: It is uncovered that among examined sings of dysplastic syndromes are at 36,3%. Among last dominated unclassified phenotype and morphanoid appearance. At students with dysplastic syndromes and phenotypes screening sings of magnesium deficit are in 5,6 times often, then at students without manifestation of DCT. Blood analysis among then show decrease of magnesium on 31,3% in compare with control group. NCD and low stress-stability among dysplastics are in 7,2 and 6,4 times often, then among persons without phenotypical change. 2–3 months course of preventive therapy with Magnerot to lead up increase of stress-stability.

Conclusion: Every third, fourth Stavropol student has sings of DCT, which associated with hypomagneemia, NCD and decrease level of stress-stability. Course preventive therapy of Magnerot makes decrease its resistance to psycho-emotional stress.

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ABOUT VARIED ASPECTS OF THE COMPLEXED WORK OF THE CENTRE OF STUDENT'S HEALTH IN STAVROPOL ON THE CAUCASUS

Evsevieva M., Muravieva V., Frantceva V.

Background: Youth's health is the indicator of social felicity and base of successful development in future. The great role in it depends on forming in Russia Centers of youth's health.

Aim: Experience analysis of Center of Student's Health (CSH) one year activity, organized at Stavropol State Medical Academy.

Patients and methods: It is analyzed more than thousand cards for express-estimate the health resorts of students of first, fourth and sixth course from three faculties. There are 254 circumstances among them in dynamic to risk groups. It was also analyzed all accountable, discounting documents of CSH. Results of analysis elaborated by packet program STATISTICA version 6.

Results: Among first course students there are complaints on cardio-vascular system. At sixth course students dominates problems of nervous, mental sphere, manifested by high irritability, tiredness, low tolerance of emotional exertion, etc. Indicated problems are character for half of students. In this case remarkable, that such diagnostic index of low stress stability as isolated office hypertension among graduates occurs authentically often than among persons who enter the university. In general, detection the problems of all organs and systems during six years education have tendency of growth. Special dynamic is in increase of focal otolaryngological infectious. Results of screening estimate the first course students demand form the risk groups of locomotor apparatus, gastro-intestinal, cardio-vascular, nervous system. In many occasions indicated problems put conditions to constitutional, hereditary factors, as dysplasia of connective tissue or early metabolic syndrome. There is detected high presentation focal otolaryngological infectious at the dysplasia of connective tissue. Accumulated experience show, that correction of threat profile is impossible limit only by individual preventive consulting, it is necessary complex of agitation in combination with pedagogical, educational means (schools of healthy students, trainings, video lectures, etc.). It is also necessary reform the study process with attention to questions of prevention the main diseases. In this case future doctors can form health life habits. Students take part in programs «Stop, hypertension!», «Our life without drugs» and others.

Conclusion: It is necessary the complex approach with health preserving, educational, pedagogical, agitation technologies for effective form the healthy way of life in the student's contingent.

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POSITIVE FAMILY HISTORY FOR HPV DISEASE AND SEXUAL ACTIVITY OF HPV VACCINATED GIRLS

**Ferenčić Vrbanić N., Juriša A., Posavec M., Drenški I.,
Džepina M., Juhović Markus V.**

Background: The city of Zagreb organized free HPV vaccination for girls in 7th grade primary school, children of poor socio economic status and children of Croatian homeland soldiers. Also all other girls and young women who requested the vaccination were vaccinated but had to pay all three doses of the HPV vaccine.

Aim: To investigate family history regarding HPV disease and sexual activity of girls who were vaccinated from year 2007 to 2010 in city of Zagreb, Croatia.

Patients and methods: Sample of 1521 vaccinated girls completed health related questionnaire. Some of the questions were referred to family history regarding HPV and sexual activity and contraception.

Results: Positive family history regarding HPV have 22,9% of the vaccinated girls (Table 1).

Table 1. Positive family history regarding HPV of HPV vaccinated girls

Family member with HPV disease	Percentage (%)
mother	52
grandmother	18,7
aunt	5,4
sister	3,4
cousin	0,3
other	2,9
two family members	2,9
no answer	14,4

Only 4,7% girls are sexually active but 9,7% girls did not answered any question regarding sexual activity. First sexual intercourse for most of the girls was between age 16 and 18 (65,3%). Steady partner and regular intercourse have 58,3% of the girls. Most of the girls are using condom as a regular protection (76,3%), also 81,9% girls used condom during their first intercourse.

Conclusion: The investigated population has a high awareness regarding HPV disease and also high sexual awareness. According to that we would expect high vaccination response, which is not the case. Further investigations are needed to establish reasons of poor HPV vaccination response.

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A SYSTEMATIC APPROACH IN DEVELOPING, IMPLEMENTING AND EVALUATING GUIDELINES IN PREVENTIVE CHILD HEALTH CARE IN THE NETHERLANDS

Fleuren M., Kamphuis M.

Background: Evidence-based guidelines in Preventive Child Health Care (PCHC) are developed at the request of the Dutch Ministry of Health. They target doctors, nurses and assistants (n = 7200). Since 1998, eleven guidelines have been published. They cover e.g. the detection of visual disorders or child abuse.

Aim: It is widely recognized that guideline adherence is a problem. A substantial proportion of children will not receive the intended care in a way that they benefit from these guidelines. This could be improved if guidelines are introduced systematically. For this purpose, we developed a framework that connects development, implementation and evaluation.

Patients and methods: Development. The guidelines are developed systematically in cooperation with the professional associations of PCHC doctors, nurses and assistants and according to an evidence-based approach for guideline development (EBRO). The procedure includes a pilot implementation.

Implementation. Four main stages in innovation processes can be discerned: dissemination, adoption, implementation and continuation. The transition from one stage to the next can be affected positively or negatively by various factors or «determinants». An understanding of determinants is a prerequisite for designing an implementation strategy.

Evaluation. It is important to evaluate whether the guideline has been put into practice by all PCHC professionals, in terms of levels of dissemination, adoption, implementation, continuation and their determinants. These data are also needed to fine-tune and/or redesigning the guideline (development) and the implementation strategy (implementation).

Results: Evaluations are performed for the guidelines on hearing disorders, visual disorders and congenital heart disorders. The results show that a systematic introduction seems to have a positive effect on the level of dissemination and implementation.

Conclusion: At the Conference, we will outline our framework as well as the results of the evaluations.

64 THE SYSTEM OF STUDENTS' HEALTH PROMOTION AND RESUMPTION

Fomina M.

Background: For the first time in the region the total students' health evaluation has been realized. There was created the software program of students' health dynamic monitoring, as well as there was developed and implemented the multilevel system of prenosological diagnostics, noninfectious diseases prevention and health resumption of student-age population.

Aim: The introduction of worked out system of students' health promotion.

Patients and methods: The research has been conducted in the Orenburg State University for 12 years. For the first time in the region the total students' health evaluation has been realized, simultaneously the next factors have been defined: functional body's reserves, the quotient of elemental homeostasis, the level of neurotization, resistance to stress and socioenvironmental adaptation.

Results: The prevalence rate of noninfectious diseases major risk factors has been determined. There was created the software program of students' health dynamic monitoring, as well as there was developed and implemented the multilevel system of prenosological diagnostics, noninfectious diseases prevention and health resumption of student-age population.

Conclusion: The introduction of worked out system of students' health promotion and resumption has proved it efficacy and possibility of it integration into postsecondary institutions.

65 THE DEVELOPMENT OF HEALTH CARE TECHNOLOGIES IN THE CONDITIONS OF VERSATILE HIGH SCHOOL

Fomina M., Zaritskaja L.

Background: The resume: the work is devoted to the problem of health preservation and recovery of studying youth.

Aim: The question of health preservation and recovery of studying youth is one of leading tasks of the Russian health service.

Subjects and methods: The work's purpose was work out and introduce a multilevel system of preventive maintenance, early diagnostics of noninfectious diseases and recovery – regenerative work with the students in the conditions in many type high school with the use of modern informational and educational technologies. The researchers are done on the base of the Orenburg State University during the period from 2000 up to 2011 with participation of 11127 students of 16 faculties and more than 100 specialties. The system consists of four levels. The first level is rapid diagnostics, means entering the students in the individual «Passports of student's health», developed on chair of the preventive medicine, the data of researches, including an estimation of physical condition, mental and social health. The second level is informational – analytical, includes the processing of received before the data with the use of the program «Monitoring of student's health of OSU» which is a part of informational-analytical system of the OSU. The third level is organizational – preventive. Developed by employees of chair the complex program «Formation and health» is focused on creation of united adaptable educational space. The fourth level is educational.

Results: It allows introducing health care technologies in educational process.

Conclusion: The offered multilevel system of diagnostics, preventive maintenance of noninfectious diseases and recovery of student's health in OSU with the use of new informational, organizational and educational technologies went parallel with other educational lines in the professional training, determined the success of special studding.

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DOES THE DAILY WORKOUT WITH WEIGHTS DIMINISH NECK PROBLEMS AMONG UNIVERSITY STUDENTS?

Friman A.

Background: There are many students suffering from neck and shoulder problems among University students. Working with Student Health as a physiotherapist, one meets daily students, who come in with neck ailments and pain.

Studying consists of a lot of sitting by the computer, on lectures and at home. Many students have a bad posture and they have stress. These factors add to ailments.

Aim: The aim was to determine the effectiveness of care practices for neck and shoulder symptoms, carried out at the physiotherapy unit of the Finnish Student Health Services centre in Turku.

Care practices consisted of an inspection and a manual examination by physiotherapist, after that a posture and ergonomics control and teaching of the daily workout program.

Patients and methods: The study consisted of 34 university students, who came to see a physiotherapist because of neck and shoulder pain.

The data consisted of the answers given by the students as well as the findings during the first and the last visit.

Students in this study committed to do a certain 15-minute-long daily workout with light weights during 3 weeks and to participate in a one and a half hour – long ergonomics group.

Results: 15-minutes-long daily workout with light weights brought about a clear reduction (76%) in complaints of the neck and shoulder region among university students.

Conclusion: The care practices for neck and shoulder symptoms were effective to diminish neck problem.

67 LEVEL OF PHYSICAL DEVELOPMENT IN SCHOOLCHILDREN AND THE ARTERIAL PRESSURE

Galaktionova M., Rahimova A.

Background: In recent years, marked by adverse trends in physical development and reproductive health of adolescents.

Aim: The aim of the work is to study the indices of arterial pressure in schoolchildren with different levels of physical development.

Patients and methods: We examined 790 schoolchildren, including 302 children in ages from 7 to 11 years (107 boys and 195 girls) and 488 children in ages from 12 to 16 years (204 boys and 284 girls). To characterize individually the harmony of physical development we used Regional norms for estimation body length and mass in children from 0 to 14 years of age (Moscow, 1990). We estimated arterial pressure (AP) after N. Korotkov technique, using age collars.

Results: The study of physical health showed average harmonic development in 265 children. Low and lower, than average levels of physical development were shown in 153 children. Higher than average and high levels were marked in 365 children. In children with high and higher than average levels of physical development arterial hypertension was registered more often (56,4%; average meaning of SAP indices came up to $129,9 \pm 9,7$ of HC, DAP $97,9 \pm 7,6$ HC) and only in 16,02% subjects, namely in children with average and lower than average levels of physical development (average meaning SAP $115,5 \pm 9,5$ HC, DAP $89,5 \pm 4,2$ HC). 96 of 273 arterial hypertension subjects were tall and in pubertal age. 9,9% subjects had exogenic constitutional obesity. Arterial hypertension was registered more often in schoolchildren with average and lower than average level of physical development. In 64,5% subjects with low level and in 39,2% subjects with average level of physical development were marked evident deviations of AP level from age norms (lowering), average SAP came up to $88,02 \pm 1,4$ HC, DAP $56,6 \pm 4,3$ HC.

Conclusion: The data allowed us to reveal close ties between the level of physical development and the arterial pressure indices. The majority of primary arterial hypertension children have evident signs of acceleration (26,5%).

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**EARLY DIAGNOSTICS OF THE ARTERIAL
HYPERTENSIA AT CHILDREN AND TEENAGERS**

Girsh Y., Bryl A., Teplykov A.

Background: Preventive maintenance of cardiovascular diseases at children's age has paramount value for improvement of a state of health at adults and increase in life expectancy. Change of the adverse situation which has developed now should occur due to early revealing initial stages of diseases in children's age group. Test with the dosed out physical activity gives the information for diagnostics of an arterial hypertension. It allows defining tolerance to physical activity, to reveal disadaptation the shifts arising at performance of physical activity.

Aim: To estimate a role of tests with the dosed out physical activity in early diagnostics of an arterial hypertension at children and teenagers.

Patients and methods: Results of inspections of 23 patients in the age 11–17 years (13 boys and 10 girls) in branch of functional diagnostics of District children's clinical hospital with available episodes of rise of arterial pressure. Loading tests are lead on a complex for researches of cardiovascular system CS of 200, «SCHILLER».

Results: By results of the lead loading tests increase the arterial pressure more than 160 mm hg were observed at all patients (100%). Thus increase the arterial pressure more than 180 mm hg at 86% of patients, 22% of teenagers had increase of a level venous pressure. At all veyed children decrease in tolerance to physical activity that is caused by superfluous power inputs connected with high oxygen by performance of physical activity, high frequency the raised vascular reactions took place. The most adverse situation took place at 22% of children due to increase of a level venous pressure and the general peripheral resistance.

Conclusion: Use of standard recommendations on diagnostics of an arterial hypertension does not allow estimating risk of formation of hypertonic illness while use of loading tests allows improving quality of early diagnostics arterial hypertension with definiteness, to reveal the latent forms of the raised vascular reactance at children and teenagers.

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**THE COMPLEX PROGRAM
OF TREATMENT OF ADIPOSITY
AT CHILDREN AND THE TEENAGERS
LIVING IN NORTHERN TERRITORIES**

Girsh Y., Vernigorova N., Teplykov A.

Background: Epidemic of children's adiposity in the world has reached menacing scales. The metabolic mine of the slowed down action begins return readout in the childhood and demands immediate intervention. Residing in northern territories is the additional factor of a set of weight for children. Khanty-Mansiysk district–Ugra is a territory with low temperatures up to –60, sharp transitions from heat to a cold, strong wind, low solar activity, and the long winter period with a snow cover till 6 months. The district concerns to hipocomfortable territories with intensive natural pressure on health of the child.

Aim: To estimate results of use of the complex program of weight reduction at children with adiposity.

Patients and methods: The group included 28 patients of $14,2 \pm 3,4$ year (12 men, 16 girls). Index of weight of a body all patients exceeded 27 with waist adiposity. At 23% of patients infringement of tolerance to carbohydrates is revealed, in 74% of cases an arterial hypertensia was marked. Complex program including rational a feed, selection of an individual diet, use of days of limited intake of food, under indications medical products to weight reduction, psychotherapeutic actions and behavioral recommendations. Results estimated after 6,12 months.

Results: For the first 6 months of 17 patients have lowered weight on 4%, 7 patients on 8%, 2 patients kept the former weight, 2 patients have put on weight, as had no motivation to treatment. In 12 months any patient has not increased weight of a body, 19 patients have lowered weight of a body on 8%. All patients marked improvement of parameters of quality of a life. All children improvement of parameters of a carbohydrate exchange and a hormonal structure is noted.

Conclusion: The given supervision allows considering the given complex program of effective weight of a body providing stable decrease without deterioration of state of health of patients at presence of motivation to treatment.

70 STRESS FACTOR AS A TRIGGER MECHANISM OF METABOLIC CARDIOMYOPATHY IN SCHOOLCHILDREN

Golovchenko N., Sulzenco M.

Background: Nowadays there is a negative trend to increasing the frequency of metabolic diseases of the myocardium in the structure of cardiovascular diseases. Any stress can lead to excessive activation of the sympathoadrenal system. As a result, a catecholamine imbalance occurs in the myocardium which violates the energy metabolism and leads to prolongation of repolarization and the weakening of inotropic effect. Under these conditions, contractile force of cardiomyocytes is being decreased, so that metabolic myocardial damage is being transformed into hyperadrenergic type. Manifestation and severity of the metabolic imbalance depends not only on the triggering stress factor but also on myocardium individual sensitivity to it. These processes can lead either to a moderate reversible disruption in the functioning, metabolism and a structure of the heart muscle, or to the extreme damage up to the focuses of necrosis.

Aim: The aim of our study was to examine the role of stress factor in the formation of metabolic cardiomyopathy (MC).

Patients and methods: We observed 34 schoolchildren with MC who had had manifestations of stress in various origins.

Results: All of the children complained on pain in the heart, palpitation, a feeling of incompleteness of breathing after emotional stress. From objective data we revealed muted tone I, functional systolic murmur over the apex and V point and tachycardia. On the ECG decrease in the amplitude of the T wave, displacement of ST interval of more than 1,5 mm above or below 0.5 mm contours were found. Considering the stress and the appropriate clinic we prescribed not only cardiotropic therapy but also sedation, which significantly improved the reduction of the symptoms of MC.

Conclusion: In conclusion, these data confirm the trigger role of stress in the formation of MK in schoolchildren.

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**QUALITY OF LIFE RELATED TO HEALTH
OF ACADEMICALLY GIFTED CHILDREN
AS CRITERIA OF EFFICIENCY
OF PSYCHOHYGIENIC ACTIVITIES
IN PRIMARY SCHOOL**

**Golubnichaya G., Pashkevich S., Danylenko G.,
Podrigalo L.**

Background: In order to reveal the potential of gifted children are essential favorable physical and stimulating social environments. They promote the harmonization of child's intellectual abilities, creativity and perseverance. The realization of children support programs in conditions of elementary school considers monitoring of their development, evaluation of the environment interaction – the organism in real time. For these purposes can be effectively used assessment of health-related quality of life of children.

Aim: In order to evaluate the effectiveness of psychohygienic optimization of learning activities in primary school has been conducted the estimation of health-related quality of life of 92 first-grade students, their parents and teachers by the author's method. The questionnaires which were evaluated on 5 scales: physical activity, emotional, school, relationships with peers and adults.

Patients and methods: Significant differences were obtained in assessment of health-related quality of life between the participants of testing. The greatest differences between parents and children were on the following scales: school, emotional, and relationships with adults, differences between children and teachers were on the scale-relationships with peers (children estimated higher than adults), which confirms the necessity of a comprehensive evaluation of the results. All the figures of health-related quality of life obtained by the assessment of parents and teachers were correlated with common pathological lesions.

Results: In the dynamics of the school year received a significant reduction of health-related quality of life in the classes with unfavorable hygienic conditions with stability index in classes with favorable conditions.

Conclusion: Thus, the assessment of health-related quality of life of children can be used to monitor the implementation of health-care programs and to optimize the teaching of gifted children in elementary school.

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DYNAMIC FEATURES OF MENTAL DISORDERS IN JUNIOR CHILDREN

Goncharova G.

Background: Improvement of the system of prevention of mental disorders in children and adolescents requires further development of the problems of early diagnostics of high prevalence of borderline nervous and mental disorders.

Aim: The aim of this longitudinal study was to reveal features of the pre-clinical impairment of mental health of the elementary school children (ESC) during the process of their education.

Patients and methods: The longitudinal examination of 220 children from second to fourth year of ESC from 5 Moscow schools was carried out. During the examination of the ESC the method of quantitative evaluation of mental health was applied. The information was obtained by the use of questionnaires.

Results: The findings prove that in 40,6% of ESC has an impairment of mental health evidencing of their increased susceptibility at this age to the exposure of the different unfavorable factors. Until the third year of school, boys were more vulnerable as compared to the girls; they developed more neurotic signs. During the fourth year, the girls showed the largest number of mental health problems, in particular, with prevalence of disturbances autonomic regulation. The matter of concern is a growing prevalence of affective disorders in ESC. Disorders of affective sphere such as increased level of anxiety, emotional lability, and susceptibility to offence, irritability and depressed mood were on lead by the fourth school year according to our observations.

Conclusion: Active revealing of mental deviations is a difficult task since not all the parents are eager to seek the advice of psychiatrist, underestimating or even ignoring the child responses or offering «understandable» interpretations for behavioral deviations and lack of knowledge of pathological signs and symptoms of the disorder. It is necessary to introduce the elaborated methods of early pre-clinical revealing of impairment of mental health into the practice of school physicians, psychologists and teachers.

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PSYCHOHYGIENIC EVALUATION OF INTENSIVE EDUCATIONAL PROCESS'S EFFECT ON COGNITIVE FUNCTIONS OF SCHOOLCHILDREN

Goncharova G., Nadezhdin D., Sakharov V.

Background: School activity including academic and upbringing process in general educational institutions is the most important factor affecting in many ways a cognitive development of pupils.

Aim: The aim of the study is to carry out a comparative analysis of the influence of traditional education (TE) and educational know-how intensifying the academic process on the cognitive functions (CF) of pupils.

Patients and methods: To estimate an influence of intensive school training on cognitive functions (CF) the psycho physiological inspection was applied in young school age children from TE school and from Lomonosov school (LS) in which the strengthened program of education and training CF had been included.

Results: The comparative analysis revealed, that LS group surpass TE group in development of majority CF: values of accuracy and speed of logic thinking, volume of perception, operative memory, concentration and distribution of attention in LS group exceed the average values received in TE group. The analysis of dependence of psycho physiological values from the learning experience in LS has revealed positive influence of training duration on CF: children with a big experience of learning differed more developed CF from those schoolmates who studied in it recently. However not all CF have shown such tendency. Values of switching of attention and success of acceptance of emergency decisions were below normal in LS Schoolboys.

Conclusion: Thus, despite the expressed positive influence on CF, even the best modern educational technologies can have a number of lacks which are not appreciable without the special psychohygienic control. Results of research testify to necessity of an objective psychohygienic estimation of new educational technologies for the effective protection of psychological health of children and teenagers.

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MEDICAL ASPECTS OF OPTIMIZATION OF ADOLESCENT NUTRITION

Gorelova Z., Belyaeva N., Budantseva S., Ilchinskaya E.

Background: Adolescents more often have metabolic diseases, diseases of the endocrine system, sense organs and urinary excretion system. Pathology of the gastrointestinal tract and alimentary-dependent diseases connected with nutrition factor has one of the first places. Micronutrients deficit leads to sharp reduction in body resistance to unfavorable factors of the environment, disorder of antioxidant defense system, development of immunodeficient states. Examination of nutritional status in schoolchildren showed the presence of body mass deficit in 12%, growth retardation in 15% of adolescents, 30% had clinical signs of polygipovitaminosis. The assessment of provision with vitamins B1, B2, C by means of daily urine showed an expressive decrease of these indicators in 1,5–2 times – 16,5 mg/L per day, $p < 0,05$.

Aim: Enriched vitaminized dairy products were included into the diet of college students for nutrition optimization and correction of alimentary disorders in adolescents.

Patients and methods: Adolescents got 250 ml of enriched dairy products for breakfast or nooning instead of usual dairy products, herewith the content of vitamins and minerals increased by 25,0% from daily scale.

Results: Evaluation of efficiency of nutrition correction with these products had positive results. Indicators of provision with vitamins of group B and C in children's body authentically increased in comparison with a control group. After introduction of enriched products the number of children with the deficit of vitamins of group B and C significantly decreased – by 10,5% (group B) and 26,6% (group C). Due to the nutritional optimization 59,3% of students improved their learning. We have analyzed the links between nutrition and immunity indicators, peripheral blood, provision with vitamins, cytologic status.

Conclusion: The possibility of correction of nutritional disorders through the inclusion of analogous products into students' diets was scientifically justified.

75 HYGIENIC ASPECTS OF PUPILS' PHYSICAL ACTIVITY

Gozak S.

Background: One of the most important means of preserving and strengthening health is rational physical activity. Observing the level of physical activity of children is an important aspect in hygienic studies in order to develop adequate measures for its enhancing.

Aim: The importance of this study is attributed to the tendency of children's health level reduction among the population of Ukraine. Thus assessing the level of physical activity of schoolchildren is an urgent issue for today.

Subjects and methods: The questionnaire was developed, which includes 16 indicators. The research covered 2756 pupils of the third, sixth and tenth grades (pupils of 8–17 years old).

Results: It was found that the level of pupils physical activity is significantly reducing from junior to senior school age among both boys and girls, though girls' dynamics of physical activity reduction is more expressive than the boys' one, which perhaps is associated with the earlier pubescence. Thus, their level of physical activity is reducing with significant difference from $2,83 \pm 0,02$ points on 4-grade scale in elementary school age up to $2,72 \pm 0,02$ points in average ($p \leq 0,001$) and to $2,49 \pm 0,02$ points ($p \leq 0,001$) in senior school. Among boys the reduction of motor activity with significant difference is observed later comparing to girls – only for the period from middle to senior school age, from $2,82 \pm 0,02$ to $2,56 \pm 0,03$ points ($p \leq 0,001$) respectively.

The main components of schoolchildren motor activity which need to be optimized are the following: during the school time – physical activities during lessons and breaks, during out-of-school time – sports in organized groups.

Conclusion: Therefore, the level of physical activity of children is reduced during school period, which determines the need of new approaches to physical education in schools as well as a motivation for physical trainings in their spare time.

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IMPACT OF CONDITIONS AND ORGANIZATION OF EDUCATION OF THE CHILDREN WITH DISABILITIES AND THEIR ADAPTIVE-AND-RESERVE OPPORTUNITIES

Gozak S., Stankevich T., Yelizarova H.

Background: Last years an unfavorable tendency to growing of the number of the children with disabilities was followed in Ukraine. Nowadays approximately 59 thousand children with disabilities study at the institutions of special education. For all these, conditions and organization of education and complex rehabilitation affect significantly the forming of the adaptive mechanisms of child's organism.

Aim: A given study was directed on the determination of the most significant factors.

Patients and methods: Sanitary-and-hygienic examination of the institutions of special education according to the scheme, elaborated by us, was performed in 5 special schools. Our method, based on the assessment of the organism's functional state, regulating systems, harmony of physical development, was used for the determination of the adaptive-and-reserve opportunities (ARO) of child's organism. 280 pupils were examined; the obtained data were statistically processed.

Results: It was determined that the ARO level is low in each sixth child ($15,1 \pm 1,5\%$) and lower than an average one – in each fifth child ($19,9 \pm 1,7\%$). Thus, $35,01 \pm 3,9\%$ of the children belong to the risk group.

Our study allowed to determine that correspondent light regime, organization of the education-and-up-bringing process, conditions and organization of physical training, organization of medical care, level of children's motive activity ($p < 0,01$); day routine ($p < 0,001$) were the most significant factors in all age groups. Conditions and organization of nutrition ($p < 0,001$), sanitary-and-hygienic state of the territory of educational institution ($p < 0,05$), organization of sanitary-and-anti-epidemic regime ($p < 0,05$) were significant for the forming of the ARO in junior age group.

Conclusion: All mentioned above testifies about the necessity of the optimization of conditions and organization of the educational and rehabilitation process, day routine, provision with a sufficient level of motive activity for the increase of the ARO level in the children.

77 OUT-OF-SCHOOL PHYSICAL ACTIVITY OF PUPILS

Grekova N.

Background: Promotion and assurance of conditions for physical activity and sports is an important part of state social policy of the Republic of Belarus. At the moment in Minsk there are about 90 specialized sports facilities with more than 20 kinds of sport available. Except for that, in each Minsk district there are centers for youth physical training, suggesting most popular as well as pretty rare sports.

Aim: With the objective to study out-of-school motion activity.

Subjects and methods: 1097 students of five Minsk schools and Zhodino School were interviewed.

Results: It was concluded, that with a wide network of sports facilities only 49,2% of respondents attend trainings in sports centers. The number of males doing sports is significantly higher than the one of females: 61,7% and 38,3% ($p < 0,05$) respectively. Analyzing frequency of trainings in sports sections we concluded that 70,1% of pupils attend them 1–2 times a week; 48,6% of pupils – 3–4 times a week; 16,8% of pupils do sports on a regular basis – 5–7 times a week. This group comprises mostly males (71,4%). Studying the active leisure time, we found that 28,7% of pupils play sport games almost every day; 36,4% – several times a week; 16,5% – several times a month; 9,9% – several times a year and 8,6% do not play at all. Comparing answers of various grades pupils, we found that the percentage of 1–4th grades pupils, who play sport games every day (31,5%), is significantly higher, than the percentage of 10–11th grades pupils (17,0%, $p < 0,01$), which is probably explained by the lack of free time due to the preparation of seniors for admission exams. In the course of interviewing we revealed an active role of family within the formation of healthy life style among pupils. About one third of respondents (33,7% males and 37,9% females) participate in active family leisure each weekend.

Conclusion: Thus, together with the operating network of sports facilities, urgent is cooperation of family and school to develop stable motivation for a healthy life style

78 GROWTH AND DEVELOPMENT DYNAMICS IN SCHOOLCHILDREN OF LARGE INDUSTRIAL CITY

Grizinskaya V.

Background: Physical development (PD) in children and adolescents is an important criterion of population health.

Aim: To reveal PD tendencies in schoolchildren under megalopolis conditions.

Patients and methods: Subjects and Methods. We examined 3836 children (1960 boys/1876 girls) in ages from 7 to 14 – «Group 3» in Krasnoyarsk in years 2008–2009. We estimated PD according to «Inter-Regional Standards». We made comparative analysis for body length (BL) and mass (BM) for other schoolchildren, examined in 1972 – «Group 1» and 1986 – «Group 2».

Results: The share of children with average PD decreased with the age. In girls aged 7 it was 56%, and 14 it was 43% ($p < 0,01$). In boys it was 55% and 47% ($p < 0,05$) correspondingly. Higher than average PD prevailed in senior pupils. Low and lower than average PD prevailed in primary school ($p < 0,01$). Harmonic PD was marked in 59% boys and 54% girls ($p < 0,01$). There were more overweigh boys (23%), than girls (20%; $p < 0,05$). BM deficit was more often found in girls (25%), than in boys (17%; $p < 0,001$). The number of girls with BM deficit starts to increase in 10–14 years of age and in boys after 12 years of age. This corresponds to pubertal growth surge. In senior pupils in Group 3 BL index was higher than in Group 1 and 2. In subjects aged 7 to 10 BL was lower in Group 3 than in Group 2, but higher, than in group 1. BM in Group 3 was higher than in Group 1 and 2. The analysis of BL and BM average annual increment revealed pubertal growth surge in Group 3 in 14–15 years of age and in Group 1 and 2 in 13–14 years of age.

Conclusion: Krasnoyarsk schoolchildren under modern conditions show the tendency to the increase of body overall size as well as deceleration of biological development.

79 THE PECULIARITIES OF INFANT PHYSICAL DEVELOPMENT UNDER DIFFERENT TYPES OF FEEDING

Grizinskaya V.

Background: The peculiarities of feeding at an early age are determinative factors in infant physical development.

Aim: To find those features of infant physical development during the 1st year of life, which depend from the type of feeding.

Patients and methods: We examined 2258 term infants (1191 boys/1067 girls) dividing them into three groups: «Group 1» of 1867 infants, being fed with only mammary milk during the first half a year; «Group 2» of 137 infants being fed with both mammary milk and milk formulas; «Group 3» of 254 infants being fed with only milk formulas.

Results: Body mass in boys was higher than in girls in all the groups and all ages. During the 1st month of life Group 1 infants put on weight most of all and Group 3 least of all. Later monthly increase of body mass was higher in infants being fed with only milk formulas as compared to the infants being fed with mammary milk fully or partly. The difference between indices was statistically unauthentic. During the 1st six months of life body mass in Group 1 was higher, than in 2 and 3. Very likely it is connected with on-call breast feeding in Group 1 and measured feeding in Group 2 and 3. During the second half a year body mass in boys in Group 3 is higher than in boys being fed with mammary milk. Girls without mammary milk have smaller body mass than those in Group 1 and 2. Boys have larger body length than girls in all age groups. The influence of feeding type on body length was not revealed.

Conclusion: To optimize physical health estimations in infants in their first year of life we worked out regional standards (percentile tables), differentiated by feeding type.

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NATIVE SCHOOLCHILDREN OF TYVA
REPUBLIC: DEVELOPMENT
AND GROWTH PECULIARITIES

Grizinskaya V., Sendi S.

Background: The protection of physical and reproductive health in rising generation has special significance under unfavorable demographic situation.

Aim: To estimate physical (PD) and sex development (SD) in the Tyvin schoolchildren of Kyzil schools.

Patients and methods: We examined 911 adolescents (396 boys/515 girls) in ages from 12 to 18 years old. The harmonicity of PD was estimated according to «Inter-Regional Standards» and SD to the stage of secondary sex indications development.

Results: 56% boys and 50% girls showed harmonic PD. Among overweigh schoolchildren girls (28,5%) prevailed over boys (19,7%; $p < 0,01$). In 10,5% girls and 4,5% boys the body mass exceeded 97 percentile, which required endocrinologist involvement in order to specify the character of obesity. Body mass deficit was marked in 24% schoolboys and 21% schoolgirls. The correspondence between SD level and passport age was marked in boys more often (65,5%), than in girls (53,6%; $p < 0,001$). The lag of SD behind passport age was marked more often in girls (43,7%), than in boys (29%; $p < 0,001$). In girls we registered the lag of SD according to the criteria of menstrual function formation and marked extended formation of secondary sex indications according to Ma1, P1 and Ax1.criteria. In boys SD lag was shown according to Ax1 and P1 criteria.

Conclusion: We revealed the peculiarities of growth and development in children, typical for stabilization of acceleration and the start of growth and development deceleration. We worked out regional standards of somatometric indices to optimize the estimation of growth processes in native children.

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**A HEALTHY START? ASPECTS
OF THE HEALTH AND GROWTH
OF THE FLEMISH MULTIDISCIPLINARY
BIRTH COHORT STUDY JONG!**

**Guerin C., Roelants M., Grietens H., Wiersema R.,
Hoppenbrouwers K.**

Background: Epidemiological data about type and incidence of health problems among young children are scarce in Flanders. Also research on determinants and protective factors that influence the need for care of these children is limited.

Aim: To document the whole range of health problems in children in Flanders and the impact of ill health (acute or chronic disorders, or disabilities) on growth and development.

Patients and methods: In the framework of a multidisciplinary cohort study (recruitment from May 2008 to April 2009) more than 3000 children are followed longitudinally from birth to the age of 3 years in Flanders. Data derived from regular health checks of children in well-baby clinics (n = 3017) are linked to information provided by their mothers through questionnaires about their child's health, behavior, development, education and need for care.

Results: From the 3017 infants enrolled in the study, 6,1% are born premature and 10.6% of the full-term babies were small for gestational age. One third of the 2106 mothers who completed the first questionnaire pointed out one or more medical complications during the pregnancy (such as premature contractions, infection, hypertension, bleeding, diabetes) and 2,6% reported that their baby presented a birth defect. Additional data about health-related behaviors and events concerning pregnancy (such as fertility problems and treatments rates, time to pregnancy, use of a folic acid supplement by mothers, maternal alcohol consumption and exposure to tobacco smoke) and correlations with sociodemographic determinants will be highlighted.

Conclusion: This is the first large Flemish multidisciplinary cohort study designed to assess the scope and impact of ill health in childhood.

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GENDER DIFFERENCES OF LIFESTYLE FEATURES AND SOME PARAMETERS HEALTH CONDITION IN ADOLESCENT

Gumenyuk O., Chernenkov Y.

Background: The questionnaire is a subject and objective method of estimate health condition in adolescent.

Aim: To study gender differences of the lifestyle features and some parameters health condition in adolescent.

Patients and methods: The questionnaire (the lifestyle and health) for 500 adolescents was carried (300 young men and 200 girls, age 13–18 years).

Results: The investigation shows that the most widespread in young men and girls are influence of a psychosocial stress and «fast food» products (55% and 67%; 52 and 55% respectively). The harmful habit, smoking, had 18% young men and 9% adolescent-girls.

The a number of the boys who do morning exercises daily and sport was bigger than that of the girls in twice (29 и 85% again 9 and 38% respectively). The hypodynamia promotes decrease of resistance in 43% and inclination to obesity in 39% cases. Frequent ORI and obesity had only 22 и 11% young men respectively. The irrational use of mobile phones (more 15 minutes a day) was in 70% young men and 87% girls; 79% boys and only 39% girls believe in love.

Conclusion: The hypodinamia, obesity, frequent ORI and pessimism are more typical for girls. Mobile image of life, smoking, normal weight mass body, normal resistance and optimism are more typical for young boys.

83 REPRODUCTIVE HEALTH IN ADOLESCENT GIRLS

**Gumenyuk O., Chernenkov Y., Eyberman A., Kunina S.,
Kunina A.**

Background: Reproductive health is inseparably linked with condition of the menstrual function and mammary glands (MG).

Aim: To study frequency of diseases of MG and their risk factors and menstrual disorders (MD) in adolescent girls.

Patients and methods: 605 girls 15–18 yrs. Examination, questioning, USE of genitals, analysis of questionnaires were conducted. For the study of MD and risk factors for diseases of MG we made use our own questionnaire of 19 questions.

Results: The investigation shows that 97% girls had MD. Among the girls dysmenorrhea was found in 84%. Reasons of the MD were: endemic goiter (63%), inflammatory of genitals (14%), hyperandrogenia (6%), hypothalamic-pituitary dysfunction (4%), metabolism dysfunctions (2%) and primary deficient activity of the ovaries (2%). The investigation shows that 57% had diseases of MG (mastopathy, retracted nipple, mastodynia, and assymetria) and every second girl can be counted to be in a high-risk group for diseases of the MG. We have worked out a detailed plan of prophylactic observation for girls in a high-risk group for pathologies of MG (examination by 2 times in year, rational nutrition, mode of life, choice of underwear and self-examination).

Conclusion: This study has shown a high frequency of dysmenorrhea (84%) and diseases of MG among the examined adolescent girls. Every second girl has risk factors for diseases of MG, which was detected by means of questioning. To prevent and correct reproductive disorders must be a primary aim for health in adolescence.

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THE PERMANENT SMALL GROUP MODEL (PSGM) IN LOWER SECONDARY SCHOOL AND THE EVOLUTION OF STUDENTS' PERCEPTION OF POWER IN GROUPS

Haara K.

Background: In the PSGM, the classroom is divided into four heterogeneous groups (in terms of gender, learning ability and temperament, 4–6 students in each) in which the students will work together during two school years (7th and 8th grades).

Aim: The purpose of the study is to explore the evolution of power during the two study years in permanent small groups (PSG). Furthermore, potential gender differences and the division of power are explored in different kind of situations in small group interaction.

Patients and methods: The present study is part of the multidisciplinary follow-up study «Social and Emotional Learning and Well-Being in Lower Secondary School» conducted at the University of Turku, and in the collaboration with two secondary schools in Southwest Finland (Lieto). The development of small group interaction was explored in 16 groups (n = 72 students).

The assessments of power and cohesion were accomplished four times during the 7th and 8th grades.

PSGT (Permanent Small Group Test) was designed to measure students' cohesion (emotional distance) and power in their small groups. PSGT is a figure placement technique developed on the basis of Family System Test, FAST (Gehring, 1993) by Hääri. The group tasks were videotaped for later analysis of group interaction. The positions of the figures and the number of the given «power blocks» were coded.

Results: Boys scored higher in power both in normal ($p < 0,05$) and in conflict situation ($p < 0,05$) in the beginning of the 7th grade. Later on, gender differences were not observed. However, at the end of PSG program, girls scored higher in power in the ideal situation ($p < 0,02$).

Conclusion: PSGT seems to be a promising instrument for assessing students' perceptions of power in their small groups. PSGT offers information which the students can share together, and reflect on. They can also use it in their social problem solving. In the long run, this may enhance their socio-emotional well-being.

85 MEDICO-SOCIAL AND HYGIENIC ISSUES OF LEARNING IN PEOPLE WITH LIMITED CAPACITIES IN MOSCOW VOCATIONAL COLLEGES

Ibragimova J.

Background: The issue of integration of people with limited capacities into society is extremely urgent. Our country has integrated institutions of vocational education for study of adolescents with limited capacities. The problems of their adaptation have not been practically studied yet.

Aim: To study the features of the adaptation of adolescents with limited capacities to the conditions of learning in vocational colleges.

Patients and methods: The studies were carried out in the college of building where leavers of comprehensive and auxiliary schools with mental retardation studied.

We estimated their health on medical documentation data, life style, learning modes, the volume of learning load, indicators of functional state, reactive and personal anxiety.

Results: The prevalence of functional disorders and diseases among students with mental retardation was in 2–2,5 times higher than in leavers of comprehensive schools on account of the pathology of blood circulation organs, hearing and vision organs, psychical and behavioral disorders. It requires medico-hygienic recommendations to the conditions of industrial training.

There is a high prevalence of social and behavioral risk factors among students with limited capacities. Smoking and alcohol consumption is more widespread among leavers of comprehensive schools. There is an insufficient preparedness of students for their job choice.

The students with mental retardation had low coefficients of performance in comparison with the main contingent. The assessment of functional state of students learned on variative programs showed the link between the appearance of negative shifts and the volume of learning load (in hours).

Conclusion: To raise the quality of medical service for providing such educational institutions with skillful personnel. The use of variative programs in vocational training of leavers from auxiliary schools should be accompanied by their physiologo-hygienic assessment.

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ARE YOU NIBBLING AWAY YOUR OWN TEETH? A DENTAL HEALTH PROMOTION PROJECT

Irmola M., Komulainen A.

Background: Health surveys made by the Finnish Student Health Service (FSHS) in 2000 and 2004 showed that students are unaware of the amount of sugar in their diet; sugar-rich juices, soft drinks, sweets, and chocolate are consumed on a daily basis. In 2005, more than one half of male students brushed their teeth only once a day or less frequently.

Aim: In autumn 2009, the FSHS implemented a nationwide dental health promotion project to raise awareness of the effects of eating habits, especially snacking, on dental and oral health. Another aim was to reduce unhealthy snacking, emphasizing the meaning of regular meals and water as a thirst quencher.

Patients and methods: The dental health promotion team designed a web-based test «Are you nibbling away your own teeth?» it enables students to assess their risk of tooth decay and provides detailed guidance for dental care. An eating habit questionnaire was drawn up for use by dental health professionals during appointments. Two brochures were produced for distribution; one about the detrimental effects of snacking and the other about the acidic effects of different beverages. Campaign events were organized at all FSHS locations.

Results: In January 2010, feedback on the project was collected from students through a questionnaire. Of the 882 respondents, 330 (37,6%) knew of the project. The majority (74,5%) had learnt of it at various FSHS locations, and 25,5% through the website.

Of the respondents, 15,5% had either viewed or done the web-based test. The possibilities to assess one's own dental health (72,2%) and obtain individual self-care instructions (20,3%) were rated as its most interesting elements.

Conclusion: In general, individual discussions during appointments (58,1%) and group sessions (41,7%) were most frequently rated as the best means of approaching issues related to dental health promotion. Written materials (40,5%) and website questionnaires (40,2%) emerged as the third best approach.

87 THE IMPLEMENTATION OF «ZDOROVYE» PROGRAM IN DAYCARE SCHOOL

Isaeva D., Levchenkova T.

Background: Specialists are devoting increasingly more attention to studying the influence of different pre-school activities on the pre-schoolers' balanced development and health improvement. Achieving optimal physical activity regimen requires constructing general daily regimen so as to allow the compulsory and extra physical education classes, special organized and spontaneous games and playing tasks for pre-school age kids in daycare schools to provide the basis for the kids' balanced physical and psychological development and social adaptation.

Aim: The «Zdorovye» program implemented in the State Educational Institution Daycare School № 1141 is a complex system of physical and therapeutic work that involves development of physical qualities, functional development and training of the organism, and preservation of the kids' positive psycho-emotional state. The program includes: physical and therapeutic activities, development of the optimal physical activity regimen, psychological support and medical monitoring of the kids' state.

Subjects and methods: Pre-school age kids.

Results: The effectiveness of the «Zdorovye» program implementation is supported by the following measurements of the kids' health and physical fitness.

The results of the children's health monitoring:

Measurements	2006	2007	2008	2009	2010
Number of days	148	149	157	160	159
Illness frequency, kids/day	8,1	7,9	7,9	7,8	7,8
Kids who get sick often, %	5%	4%	4%	4%	4%
% of kids with chronic illnesses	2%	2%	1%	2%	1%
Health index	25%	28%	28%	30,6%	32,1%
Health groups, %					
I	25,1%	21,8%	23,7%	20,2%	20%
II	73%	74,45%	75%	75,8%	78,7%

III	1,9%	3,75%	1,3%	2%	1,3%
IV	–	–	–	–	–

The results of the program implementation in physical education have positive dynamic:

	Years when program was active		
	2007–2008	2008–2009	2009–2010
Physical fitness	86%	88%	89%

Conclusion: The data presented suggests that the physical education and therapeutic system implemented in the daycare school assists in improving the kids' health and emotional state.

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**WORKING ADOLESCENTS:
LIFE QUALITY AND ISSUES
OF HEALTH CARE**

Ivanov V.

Background: Students' work during their spare time is a factor which influence on adolescents' health is insufficiently estimated.

Aim: To study the character of working activity and its influence on health of adolescents through the monitoring of the employment of senior schoolchildren and college students.

Patients and methods: Questionnaire survey of 1500 senior schoolchildren and college students of Moscow was carried out for the assessment of life quality (MOS SF-36).

Results: More than a third of senior pupils and half of college students work. 50% of adolescents have the working day longer than it is allowed by law, 10% are occupied at works prohibited for adolescents. The adolescents pointed at a low salary (34%), hard working conditions (23%), tense anxiety (18%), and bad relationships in the collective (11%). There is a higher prevalence of bad habits; more often sleep deficit and disorders of nutrition regime in working adolescents. The prevalence of complaints and the number of often ailing children are also higher in this group. The working adolescents especially those who have chronic diseases got tired more after lessons.

Sample estimate of quality of life (146) showed the trends of the decrease in the role functioning stipulated by physical state – RP (68,4 in working adolescents vs. 72,3 in nonworkers), the role functioning stipulated by emotional state – RE (71,4 vs. 76,3) and general health state GH (64,6 vs. 70,0). Working adolescents with chronic diseases had authentically lower quality of life on scales GH, VA (vital activity), BP (bodily pain), RP и MH (mental health).

The findings show the need of rising control of working conditions of adolescents, negative influence of work factor on the life style and its quality of adolescents especially those who have chronic pathology. There is an importance of medical consulting for adolescents during their getting a stop-gap job.

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INDICATORS OF EFFICIENCY IMPROVEMENT IN CHILDREN AND ADOLESCENTS

Ivanova A.

Background: Today to assess the effectiveness of children's rehabilitation pediatricians should use data of 4 «required» indicators: height, weight, muscle strength (dynamometry) and vital capacity. The selection of these criteria is caused by their potential volatility under the environment influence (favorable or unfavorable) within summer recovery time and the ability to estimate their dynamics for the health-improvement shift. Since the basic principles of rehabilitation is the continuity and year-round, the represented criteria can not entirely reflect the effectiveness of rehabilitation and its features depending on the institution profile.

Aim: To develop the «additional» improvement indicators allowing assess the real effectiveness of the carried out measures.

Patients and methods: Object of research is the health of pupils first, fifth and ninth classes of Moscow public educational institutions before and after rehabilitation programs. There were applied methods of natural hygiene experiment, adequate methods for assessing the health status at the group and individual level before and after rehabilitation, as well as methods of statistical analysis.

Results: There were designed «additional» improvement indicators, allowing a realistic assessment of the health status and health potential of the younger generation, as well as the expediency of the conducted activities. These criteria are: frequency, severity and duration of acute respiratory viral infections that occur within first 6 months after the rehabilitation measures, motor activity, starting from the daily age norm of child, success in studies and training in the first half a year after taking of health-improvement measures; failure of harmful habits (smoking, alcohol); estimation of child's neuro-psychological status.

Conclusions: Implementation of «additional» improvement indicators in children and adolescence will significantly change approaches to rehabilitation system in general and allow giving real estimation of effectiveness of the conducted measures.

90 THE REGIONAL ASPECTS OF RENAL CHILDREN DISABILITY

Ivanova I., Trefilov A., Rodionov V.

Background: Numerous epidemiological studies indicate a widespread chronic kidney disease.

Aim: To examine the regional characteristics of the prevalence and structure of renal disability in children.

Patients and methods: Prevalence of childhood disability was studied on the basis of official statistics of the Ministry of Health of the Chuvash Republic for 2001–2008 years, individual medical records from 314 children with diseases of the urinary system.

Results: Proportion of disability with nephrological pathology is 5,2% of all disability or 7,6% of somatic. In the structure of disability resulting from congenital malformations, deformations and chromosomal abnormalities, the part of renal anomalies was 9,7%. Among children with renal disability, patients with congenital malformations prevail (74,8%). Renal agenesis and other reduction defects of kidney were 4,5%, cystic disease – 9,2, congenital obstructive defects of renal pelvis and congenital malformations of ureter – 40,2, other congenital malformations of kidney – 12,1, other congenital anomalies of the urinary system – 6,8% of children. Nephrological pathology in the structure of disability presented glomerular diseases at 11,1%, chronic tubulo-interstitial nephritis – 5,1, obstructive and reflux uropathy – 2,6, neuromuscular dysfunction of bladder – 1,9%, chronic renal failure, disorders resulting from impaired renal tubular function and other disorders of kidney and ureter was 0,9%. And children with Wilms tumor were 1,8%. Thus, most of nephrological disability in children presented congenital disorders (78,7%), 16,6% of patients had only one kidney, 41,4% were operated for VUR, hydronephrosis, or other states.

Conclusion: These data indicate the difficulties of rehabilitation of this population of children, the high risk of forming them in the future terminal chronic renal failure with the need for replacement therapy or kidney transplantation.

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CORRELATION BETWEEN CHILDREN'S WEIGHT AND HEIGHT AT MEDICAL EXAMINATION ON ENROLLING IN 1ST CLASS OF PRIMARY SCHOOL WITH PARENTAL HEIGHTS**Jakic M., Jakic M.**

Background: Physical growth is permanently influenced by genetic and environmental factors.

Aim: The study investigated the relation between body weight and height in children enrolling primary school and their birth growth features on the one side and their parent's heights on the other.

Patients and methods: The study included children attended regular check-up by enrollment to primary school ($n = 397$; girls 195, boys 202). Each of them was determined age, weight, height and body mass index. The data on their birth length, height and head circumference are found in their medical records. Their parents' height and weight also were measured. Excluded were preterm born and children with a single parent.

Results: By entering the primary school, the children were 6.7 ± 0.3 yrs of age in average, and had mean body weight and height of 24.6 ± 5 kg and 123 ± 6 cm respectively. Children's height was in significant correlation with birth weight, length and head circumference, and with parents' heights. The correlation was the highest with father's height ($r = 0.47$, $p < 0.01$), and the lowest with birth weight ($r = 0.16$, $p < 0.05$). Children's weight significantly correlated with the three birth growth features and with father's height, but not with mother's height ($r = 0.09$, $p > 0.05$). The correlation was the highest for the father's height ($r = 0.288$, $p < 0.01$) again. All the birth parameters correlated stronger with mothers than father's height. In the subgroup of children whose mothers were of equal or greater height than fathers ($n = 28$) correlation between children's and father's heights ($r = 0.29$, $p < 0.01$) were lower than between children's and mothers' heights ($r = 0.47$, $p < 0.01$).

Conclusion: The children's weight and height at the time of enrolling primary school significantly correlates with their parents' heights. The correlations are stronger with father's height. Though, it is not the matter of gender, but of the higher parent. The birth growth parameters are only in part related to parents' heights.

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**PROGRAMS OF EARLY REVEALING
AND CORRECTION OF DEVIATIONS
IN THE STATE OF HEALTH
OF STUDENTS-FIRST-YEAR STUDENTS**

Jakubenko O., Petuchova A.

Background: The problem of preventive maintenance, early revealing and correction of infringements in a state of health of students is extremely actual.

Aim: A number of specific factors of the modern validity especially sharply influencing students, first of all first-year students are allocated.

Patients and methods: In total it has been surveyed 328 students who have arrived on the first course of high schools of Omsk.

Results: We develop the five-step model, allowing carrying out early diagnostics, correction in the conditions of high school and preventive maintenance of infringements of health at students. At the first stage the estimation of the risk factors connected with educational process is spent. On the second – the anamnesis is studied. The third stage is research of psychological features of the person of the student. The fourth stage allows estimating degree of adaptation of the first-year student to training conditions in high school. Presence of interrelation of psychological features of students with a sex, age and constitution type, and also influence of personal lines of first-year students on success of their social adaptation and vegetative stability is revealed. The fifth stage of work is division of all surveyed on some groups for which it is necessary to carry out the general rehabilitation actions. Practically healthy students are carried to the first group. The second group – students with infringements before illness the register. The third group – students with rezidualno-organic defeats of a brain. Their improvement includes preparations cerebroprotector actions, degidrotacions means, vitamin therapies, antioxidants. The fourth group – students with chronic diseases, boundary psychological frustration.

Conclusion: The technologies of work developed by us for strengthening of medical and psihologo-pedagogical support of first-year students at a stage of their adaptation to conditions of the higher vocational training.

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**PRECONDITION FOR IMPLEMENTATION
OF PREVENTIVE CARDIOVASCULAR RISK
PROGRAMS AMONG SCHOOLCHILDREN**

Juresa V., Musil V., Kujundzicitiljak M., Majer M.

Background: The risk factors for cardiovascular disease (CVD) are high blood pressure, glucose and lipids, increased body mass index (BMI/kg/m²), tobacco consumptions and positive family history. Important determinants are also eating habits and physical activity.

Aim: The aim of this study was to analyze the difference of health related life style habits using different criteria for classification of nutritional status in schoolchildren, as a precondition of intervention.

Subjects and methods: Cross-sectional study comprised 965 children in 8th grade of elementary school. A self-developed questionnaire was completed and anthropometric measures were taken. International (1) and national (2) age and gender specific criteria for BMI were used to determine nutritional status as normal weight, overweight or obese. Data were analyzed using descriptive statistics.

Results: Using international criteria, 18% boys and 15% girls were overweight or obese. 7% boys and 10% girls had a BMI > 95th percentile according to Croatian national standards. Classification according to different criteria statistically significant didn't match in 13,54% boys and 4,9% girls ($p < 0.001$). Between children with normal weight and overweight or obesity, statistically significant ($p < 0.05$) differences in the number of daily meals, vegetable consumption, sugar use for coffee and tea and chocolate and cookies consumption (in last 7 days) were observed, using both the international and national criteria. A statistically significant difference ($p > 0.05$) in physical activity in a form of sport training in club was not observed between boys and girls.

Conclusion: The results of this study confirmed the importance of appropriate criteria for assessment of nutritional status of children, in order to recognize those with objective risk and involve them in CVD preventive programs.

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INCREASING OF RISKS FOR CARDIOVASCULAR DISEASES IN SCHOOL CHILDREN

Juresa V., Musil V., Majer M.

Background: Cardiovascular diseases (CVD) are a major cause of premature death and disability worldwide. The risk of CVD can be reduced quickly and substantially with successful preventive practices.

Aim: The aim of this study was to analyze physical activity, eating habits, and smoking, personal and family medical history among school children in order to recognize risk factors for development of CVD.

Patients and methods: Cross-sectional study was conducted on representative sample of 40 elementary and 20 high schools in Croatia. The study comprised 2869 children (46% girls) in 1st and 8th grade of elementary school and 3rd grade of high school. Children completed questionnaire and anthropometric measures were taken. Data were analyzed using descriptive statistics.

Results: Analysis of eating habits among pupils of 8th grade showed that 23,4% of boys didn't consume fruit and 43,3% of girls had less than 3 meals daily. Fast food consumption more than 3 times a week was reported by 32,9% of boys. 62,0% of boys trained in sport club. Physical activity with sweating less than three times a week was reported by 78,3% girls. Smoking was reported by 70% girls. CVD in own medical history was reported by 3,6% of boys. Hypertension was reported in family medical history by 34,9–45,4% of pupils. TV-viewing more than 2 hours daily was reported by 19% of children in 1st grade. Alcohol consumption more than six times last month was reported by 5,3% of boys in 1st and 28,9% in 8th grade. All studied habits were worse among pupils in 3rd grade of high school.

Conclusion: The results of these study showed that habits recognized risk for CVD from childhood to adolescence. Except family history, other recognized risks belong mostly to modifiable CVD risks factors that could be prevented or changed through appropriate preventive programs.

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**INTERNET BULLYING AND CHILDREN
WITH SPECIAL NEEDS INTEGRATED
IN REGULAR SCHOOL PROGRAM**

Juresa V., Musil V., Majer M.

Background: Internet bullying is the use of Internet to send or post text or images intended to hurt or embarrass another person. Cyber-bullying instances have been increasing over the last several years.

Aim: To point out the importance of internet and other forms of cyber-bullying. This kind of bullying could cause serious consequences on mental health of children, especially threatened are children with special needs.

Subjects and methods: We used data from medical records of school medicine counseling service.

Results: A number of parents of children with special needs visited counseling service in school medicine because of cases of cyber and internet bullying. Children with special needs in Croatia are integrated in regular school program. Many of them try as much as possible to be involved in a number of aspects of regular life like use of electronic media for communication with peers. In recent years, like use electronic media for communication, cyber bullying is also increasing among children. Mostly, parent of children with special needs have access on Facebook profile or e-mail of their children and often they notice cruel and nasty messages sent by other children. When children were asked why they do that, they answered that it was just a message, it is not something personal, or they didn't taught something like that and they didn't do nothing bad. Children don't recognize messages as their own personal opinion.

Conclusion: School medicine service together with schools should provide intensive education of children and parents how to use electronic media for communication, and not as a source of violence.

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WHAT ARE THE BEST PREDICTORS OF SCHOOL SUCCESS?

Juresa V., Musil V., Majer M.

Background: Medical examination before enrollment in primary school might detect factors described as predictors of school success before enrollment. It is not possible to change social factors or family characteristics, but they could act as signals that children are at risk, especially if they have psychosomatic, emotional, and neurotic or hyperactivity disorders or social immaturity or if they had poorer results on «Draw a man» tests.

Aim: To determine the importance and intensity of individual or groups of health and social factors that could influence school success.

Subjects and methods: The longitudinal study comprised 361 children in primary school. Children were examined before enrollment in primary school and followed over the eight year of primary school by school medicine specialist.

Results: Predictors known before enrollment might account 57–60%, and together with predictors collected during primary school might account 75–82% of school success. Out of studied predictors known before enrollment, the greatest contribution to the determination coefficient was observed to be parent's education level. Among predictors collected during the primary school, the greatest impact was observed to be supplementary classes. In boys, success in school was observed to be more influenced by behavior disorders, hyperactivity and social immaturity than intellectual capacity. In girls, intellectual capacity, result obtained on test «Draw a man» together with social immaturity, had the same impact on school success.

Conclusion: Predictors collected during primary school have indicated many specific characteristics of poor success, especially in boys: class re-attendance, make-up exams, supplementary classes, behavior disorders and absence without leave. It is like a vicious circle-«once it starts, it never ends» and «poor success maintains poor success». It is very important to support pupils with poor success to improve their self confidence and skills, especially if they have learning disabilities.

97

HEALTH EDUCATION OF SCHOOL CHILDREN PROVIDED BY MEDICAL STUDENTS

Juresa V., Musil V., Majer M., Sosic Z., Pavlekovic G.

Background: The Community Health Course is a part of Curriculum University of Zagreb School of Medicine since 1952. One of obligatory activities on The Course is health education of school children.

Aim: The aim of The Course is to give insight in the health care system and in epidemiological and socio-medical determinants of health.

Subjects and methods: The Course practical has been performed in Požega County which has 27042 pupils in 14 main elementary schools and 1383 pupils are dispersed in 20 dislocated schools in small villages. Students learn how to teach teaching and develop communication skills, by performing the usual activities of local school medicine service. This is also of help for local health service because of small numbers of school medicine teams which take care of large number of school children.

Results: «Puberty» is a teaching theme routinely taught every year. Students prepare the class under the supervision of course tutors and lecture by themselves. At the end of The Course students are required to fulfill evaluation questionnaires about performed activities (community nurses, family medicine, health education in schools) using grades from «1-bad» to «5-excellent». Course evaluation by 224 student's right after the course and 192 of the same generation of students 2 years later showed that health education of elementary school children is among the best evaluated activities, with average grades of 4.85 and 4.36.

Conclusion: The community health course is commonly one of the best evaluated courses at School of Medicine in Zagreb, with health education recognized as valuable part of medical program. «...the preparations I made for lecturing school children I took seriously, because our task as doctors is not only to cure but also to educate people...». «...the lecture was the best and the most educational part of the practice», «...applause after the lecture – priceless!» (Students, 2008).

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**HPV VACCINATION IN CITY OF ZAGREB,
CROATIA, FROM 2007 TO 2010**

**Juriša A., Ferencić Vrbanić N., Posavec M., Drenški I.,
Juhović Markus V., Džepina M.**

Background: The city of Zagreb organized free HPV vaccination for girls in 7th grade primary school, children of poor socio economic status and children of Croatian homeland soldiers. Besides these groups, other girls and young women requesting the vaccine were vaccinated but had to pay the vaccination, they are also included in this survey.

Aim: To show results of the HPV Vaccination program in city of Zagreb, Croatia, from 2007 to 2010.

Patients and methods: Sample of 1521 vaccinated girls completed the questionnaire regarding their health status, sexual activity and contraception, and HPV awareness.

Results: Most of the vaccinated girls were included in free HPV vaccination program (80,1%). 66,6% of vaccinated girls are 14 year old, 11,9% 13 year old and 16,7% girls from age 15 to 19. Majority of the vaccinated girls (79,2%) do not have chronic illness and have received all mandatory vaccines (including Hepatitis B vaccine) with no side effects. Only 4,7% girls are sexually active and most of them are using condom, 9,1% vaccinated girls have been to gynecologist for a pelvic exam, 41,7% of them also for Pap smear and 48,9% have never been Pap tested. Primary source of information regarding the vaccination was school doctor (51,9%).

Conclusion: Although the HPV Vaccination program was free, vaccination response was very poor. The target population is healthy with good vaccination attitudes to mandatory vaccination program. Sexually active girls have a high HPV awareness. Further investigations are needed to establish reasons of poor HPV vaccination response.

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IS ENURESIS RECOGNISED AS A PROBLEM?

**Juriša A., Posavec M., Ferencić Vrban N.,
Tičinović Ivančić A., Juhović Markus V.**

Aim: The goal was to investigate whether the parents of enuretic children recognize enuresis as a child's, as well as a family problem.

Patients and methods: The 5 questions questionnaire was given to parents of children enrolling first grade primary school. Questions were about enuresis problem in children and their families, and parental coping strategies.

Results: In the random stratificated sample there were 597 children, from city of Zagreb, most of them were 7-year-olds (78,6%), 52,6% were boys and 47,4% were girls.

Parents reported enuresis problem in 70 children, 52,6% of them were boys and 47,4% were girls. Most of the enuretic children wet their bed less than once a month (58,5%) and 22,9% of enuretic children wet their bed twice a week or more.

Enuresis problem in family have 35,7% enuretic children, 60% of them have one parent who had the problem.

Some enuretic children have the problem also during the day (15,7%).

Only 13,6% enuretic children use pharmacologic treatment, only 2 of them desmopressin. Some kind of nonpharmacologic treatment use up to 25,4% enuretic children, most of them rewards if remained dry and psychotherapy. There are some parents who punish children if they wet their bed (3,4%).

Conclusion: Enuresis is a significant problem in school children and still not recognised enough. Enuresis must be treated as it can lead to secondary psychological problems. Parents are not substantially informed and educated about enuresis coping strategies. School health services are good place for meeting and informing the parents. The first step for convincing parents to treatment is getting a detailed medical history, then explaining the problem to parents and finally presenting true information about treatment options.

100 THE INFLUENCE OF THE ACTIVE REST ON THE SCHOOLCHILDREN'S MENTAL ACTIVITY IN STUDDING PROCESS CONDITIONS

Kalynytschenko I.

Background: Among pupils' health strengthening methods (feeding, keeping to school environment regulations hygienic demands, corrective pedagogic) the moving activity factor takes the priority place.

It is known that the alternation of mental and physical activities, switching from one kind of activity to another, halting the schoolchildren mental working by the first sign of tiredness and the organization of the schoolchildren's active rest favor the renewal of the functional central system state and static muscle tension taking down.

Aim: The conclusion is that because of hypokinesias there is a risk of tiredness appearance that leads not only to learning quality lowering but also to the functional breaks and chronic illnesses. The aim of the investigation was the estimation of the character and the mental working ability (MWA) changes orientation and healthy memory of the school aged children under the rule of physical minute breaks usage.

Patients and methods: Within 107 schoolchildren, aged from 8 to 17, who were divided to three age groups (8–10; 11–14; 15–17 years), MVA indexes were studied with the help of proof test on Anphimov's table.

The movement elements' quantity and duration, which were done by schoolchildren during lessons, were studied by the method of time keeping, with the definition of the quantity and duration of unmotivated movements and distractions.

Results: Schoolchildren time keeping observation during lessons with the different volume of movement activity (MA) allowed us to estimate that in common the greatest part of time, belonging to distractions and unmotivated movements, grows by 1,39 times ($p < 0,05$). It being known that the growth of unmotivated movements and destructions time size from the beginning of the lesson to its end without dynamic component (DC) is observed by the children of younger (by the 1,52 times ($p < 0,05$)) and middle (by the 1,39 times ($p < 0,05$)) school ages only. For senior pupils the stability of working ability with the time decrease tendency of being work distracted is typical.

Conclusion: The results analyses of the direct physical minute breaks (PMB) influence on the functional schoolchildren organism state show us that the active rest effect has the stimulating immediate influence on the renewal processes under the static load during a lesson.

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NON SCROTAL TESTICLES: THE USE OF DECISION MODELING AND PATIENT PREFERENCES TO BE USED IN THE DEVELOPMENT OF A MULTIDISCIPLINARY GUIDELINE

Kamphuis M., Van Den Akker-Van Marle M., Pierik F.

Background: During earlier development of a guideline for preventive youth health care on the subject of non scrotal testicles (NST), scientific evidence was lacking and different interpretations were given. This project addresses the next questions:

- What is the optimal age to operate on congenital NST?
- What is the optimal age to operate on acquired NST? (Discussion: directly when diagnosed, or wait till puberty?)

The best way to determine this would be by a randomized controlled trial. This is, however, at this moment not feasible. Therefore we employ a decision analysis.

Aim: The aim of this project is the following:

- To apply a decision analysis, including patients' preferences, in the development and implementation of a guideline.
- To determine the optimal strategy for managing NST, including societal and patient preferences.
- To translate the study results to practical recommendations in a multidisciplinary guideline.

Patients and methods: A decision analysis consists of the following steps: 1) specifying and define the problem and model, 2) ascertain parameters for the model and assess their outcome (based on scientific literature, expert-opinions, patient perspective en costs and 3) analyses.

Results: The model will quantify the contribution of parameters to clinical outcomes and patient satisfaction. The results of sensitivity analyses will indicate for which of these factors, further research is needed to reduce uncertainty.

At this time results are being analysed and will be presented at the conference.

Conclusion: For many parameters conclusive information from scientific literature was lacking. In these cases, expert opinion was used to provide an estimate of parameter values. Overall conclusions from the results will be presented at the conference.

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**THE RESULTS OF TESTING MOTORIC,
GRAPHOMOTORIC AND EMOTIONAL
MATURITY OF THE CHILDREN
AT THE ELEMENTARY SCHOOL
ENROLLMENT IN SPLIT**

Karin Z., Gabric V.

Background and aim: To show the prevalence of inferior results of testing motoric, graphomotoric and emotional maturity of the children at the elementary school enrollment in Split, Croatia.

Subjects and methods: Cross-sectional study with 771 school children from three elementary schools in Split, Croatia from 2008 to 2011. The data were obtained from the preventive cardboards of the school children.

Results: Among the total of 771 children, there were 52,14% boys and 47,86% girls. Inferior results testing motoric, graphomotoric and emotional maturity were observed in 147 children, of whom were 71,42% boys and 28,57% girls. 64,62% of children with inferior results had normal psychomotor development, while more than 30% of children had psychomotor difficulties. Inferior graphomotoric results have been observed in 72,78% of children, 26,53% of children had motor disorder. Emotional immaturity presented in 45,57% of children, while more than 30% had associated disorders. The elementary school enrollment has been postponed for one year in 20,40% of children and 40% of the children had difficulties during the first school year.

Conclusion: Inferior results of testing motoric, graphomotoric and emotional maturity of the children at the elementary school enrollment may be an indicator of later inferior school achievement. Early detecting of such difficulties and providing professional support may help the children in continuing process of education.

103
PSYCHOTHERAPEUTIC PRACTICE
GUIDELINES FOR THE TREATMENT
OF BORDERLINE PERSONALITY DISORDER
IN FINNISH STUDENT HEALTH SERVICE

Keinänen M., Lahti I.

Introduction

Personality disorders, among them especially borderline personality disorder, are one of the biggest problems, when one considers the public health and health expenditure among young adults, also among university students. Thus the importance of psychological factors among university students on the health and capacity to study is especially essential, because students use psychic resources as their principal working tool. Therefore, psychotherapy is a key method in the treatment of borderline personality disorder with university students.

The assessment and the planning of the need-adapted treatment of borderline personality disorder in Finnish Student Health Service

1. The student makes an appointment to the mental health worker. The evaluation phase (1–5 appointments) of the patient includes the exact mapping of the problem concerned and on that basis the estimation of the need adapted care, taking into consideration:
2. The psychiatric assessment, and on that basis symptom based diagnosis according to ICD-10/DSM–IV-disease classification is made
3. The psychologist and the psychiatrist take care of the planning of treatment and treatment guidance. Psychotherapy assessment includes the structural evaluation of the personality. This is made either by the psychiatrist or the psychologist
4. Psychotherapy is planned according to each student's unique needs: the treatment may be for example crisis therapy, long-term individual therapy, group therapy or combination of them.
5. The psychotherapy concerned is carried out by trained psychotherapists, either as an own activity of Finnish Student Health Service (crisis psychotherapy) or so that the student will be referred to the private sector for psychotherapeutic rehabilitation (long-term psychotherapies), with the aim of restoring and stabilizing the studying capacity.

The implementation of psychotherapy in the treatment of borderline personality disorder

When there is a good enough view of patient's personality structure and its relation to symptom diagnosis (including the view of patient's self esteem and his/her object relations), the therapist can evaluate, how and by which psychotherapy method it is possible to influence on the psychological disorder. Within the framework of treating personality disorders it is often the issue that the psychic development has remained incomplete. Psychotherapy aims at facilitating the development of the inhibited psychic development. Then the psychic symptoms, which are often a manifestation of developmental fixation, give way to psychic growth. When the student has a severe long-standing personality disorder, like borderline personality disorder, a long-term psychotherapy (2–3 years) is needed in order to get enough time to achieve a coherent and stable personality structure. The effectiveness of psychotherapy in the treatment of these patients has been verified in psychotherapy research.

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**DYNAMICS OF STATE OF HEALTH
OF 15–17 YEARS OF OLD TEENAGERS
BY THE RESULTS OF PREVENTIVE
MEDICAL EXAMINATION**

**Kharkovenko N., Mukhin V., Nechiporenko V., Kyan V.,
Sedova N.**

Background: General deterioration of teenagers' health indices demands timely reveal of their disturbances, correction and measures on their prevention.

Aim: The aim of research – to study teenagers' state of health in dynamics (Donetsk region).

Patients and methods: Data of teenagers' (15–17 years of old) preventive examinations for last 5 years have been analysed, morbidity level and diseases' prevalence on 10 000 teenagers including sex and residence have been calculated, structure has been analysed.

Results: Structure of diseases prevalence has shown that in teenagers first place took respiratory diseases, second – bone-muscular system, third – organs of digestion; in urban – bone-muscular system, eyes and accessory apparatus, respiratory diseases; in rural – diseases of bone-muscular system, organs of digestion, eyes and accessory apparatus.

Evaluation of morbidity has also revealed its annual increase from 8999,8 on 10 000 teenagers of region in 2005 to 10894,0 in 2009. Morbidity level of urban teenagers exceeds the same in rural ones; in youth it was higher in 2005–2006 than in girls but then it was quite the opposite. Genitor-urinary diseases in structure of morbidity taking 5-th place in 2005, in 2008–2009 got – 3-d.

Conclusion: Reorganisation of teenager's service didn't bring expected increase of the quality of medical service, didn't promote the improvement of reproduction health. Diseases not only limit ability of mastering different professions in teenager' age but darken future maternity and paternity. Modern forms of providing teenagers with medical service don't lead to the improvement of health indices. It evidences on the following improvement of old system which would promote preservation and strengthening of teenagers' health.

105
MEDICO-PREVENTIVE ISSUES
OF PHYSICAL DEVELOPMENT
OF MODERN PRESCHOOL CHILDREN

Khramtsov P., Berezina N., Sedova A.

Background: The comparative analysis of data on distribution of health groups of modern preschool children educes the expressed tendency of health decline, the unfavourable changes of their physical development indicators and negative dynamics of the indicators of functional possibilities of body.

Aim: To study health features and functional possibilities of modern preschool children and to define the key medico-preventive issues of their physical education (PE).

Patients and methods: 325 senior preschool children were examined by hygienic, anthropometric and physiological methods.

Results: The eduved features of health and physical development of modern preschool children require system preventive and healthful measures among which PE is the most effective.

The features of health and physical development of modern preschool children need regular preventive and healthful measures.

There are medico-preventive issues of physical education in modern preschool children. They are: 1) The creation of safety conditions for PT lessons in accordance with modern hygienic requirements; use of the equipment and inventory appropriate to the age, sex, functional possibilities of children; use of safety technologies of physical education; the organization of medical control of the children engaged in physical culture; 2) Strengthening of the evolutive trend of physical education – creation of effective physico-cultural environment (a special gym, sport grounds, swimming pool); use of innovative technologies of physical education; 3) Strengthening of healthful trend of physical education; use of technologies of healthful physical culture in the different regime moments; strengthening of healthkeeping competence of tutors and medical staff.

Conclusion: Problems indicated in the study are to be decided on the interdepartmental level with the participation of medical and pedagogical professionals.

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**MOTOR PERFORMANCE
OF SCHOOLCHILDREN: NEW FORMS
OF THE ORGANIZATION AND THEIR
DEVELOPING AND PREVENTIVE EFFICIENCY**

Khramtsov P., Sotnikova E.

Background: Motor performance (MP) is one of the key growth factors and development of child's body. The wide prevalence of hypokinesia among modern schoolchildren determines the search of new effective forms of MP organization in educational institutions. The issue is specially urgent for first grade pupils.

Aim: To develop an innovative motor regime (MR) for junior pupils and to estimate its efficiency in comparison with traditional MP in terms of the level of dynamics analysis of physical efficiency.

Patients and methods: Physical efficiency was estimated by indicator PWC170 in first grade pupils with innovative ($n = 56$) and traditional ($n = 52$) MR in dynamics of a 2-year examination. The volume of MP was determined by data of pedometeria.

Results: It was developed the innovative MR-1 in terms of adherence of age-sex norm of daily MP, its equal distribution during the school day, integration of MP into intellectual lessons, use of developing and correcting exercises at PT lessons and during dynamical pauses, optimal ratio of static and dynamic loads.

The volume of daily MP under MR-1 included 15062 ± 121 locomotions, under MR-2 – 12434 ± 105 locomotions ($p < 0,05$). The first grade pupils with traditional organization of MP had PWC170 indicator equal to $352,0 \pm 15,9$ kg/min at the beginning of the examination, at the end of the second year of the study – $438,9 \pm 10,9$ kg/min ($p < 0,05$), with an innovative organization – $286,9 \pm 10,3$ kg/min and $401,4 \pm 14,9$ kg/min ($p < 0,05$) respectively. The physical working efficiency gain was 39,9% under MR-1, 24,7% ($p < 0,05$) under MR-2 for a 2-year examination. Despite lower reference values of PWC170 indicator under MR-1 in children, their gain was authentically higher than under MR-2.

Conclusion: The findings show the developing and preventive efficiency of innovative MR. The new forms of MP can be used during the forming-up of MR for pupils in elementary school.

107 GUIDELINE FOR PREVENTION, DETECTION AND INTERVENTION OF OVERWEIGHT IN CHILDREN

**Kistvanholthe J., Vandever M., Renders C., Kuijpers T.,
L'Hoir M., Beltman M., Timmermansleenders E.,
Bulkbunschoten A., Hirsing R.**

Background: In the Netherlands 95% of all children 0–19 years old are routinely seen in a Child Health Care programme.

Aim: To develop a national guideline for prevention, detection and intervention of overweight in children in the Netherlands.

Patients and methods: First a performance analysis was carried out, looking for successes and failures in the current management of children with overweight. With these results the most important issues to be addressed in the new guideline were formulated and a systematic search of literature and international guidelines was performed. We used recent systematic reviews; if not available individual studies were reviewed and scored for methodological quality. In absence of evidence expert opinion was used.

Results: Prevention of overweight consists of promoting breastfeeding and a healthy lifestyle. To detect overweight in 2–19 year old children body mass index (BMI) is calculated and compared to international cut-off points from the International Obesity Task Force. For children 1–2 years of age weight for height is compared to national standards from the late seventies, before the obesity epidemic (overweight 1–2 SDS, obesity \geq SDS). Obese children are referred to a pediatrician. Children with overweight are advised by a Child Health Care professional (doctor or nurse) in three out-patient clinic visits. With parents and child, attainable goals are set in a combined lifestyle programme. The emphasis of this programme is on exercise, playing outside, having breakfast every day, no (or max. one) sweet beverages, no fast-food and $<$ 2 hours television and computer time. As motivation of child and parents is the key to success, professionals are trained in motivational conversation skills.

Conclusion: Future research will focus on the effect of this national guideline on the prevalence of overweight in children. We expect the guideline will decrease the prevalence of overweight and obesity in children in the Netherlands.

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**INSTALLATION OF CHILD DEATH REVIEW
TEAMS IN THE EASTERN PART
OF THE NETHERLANDS:
RESULTS OF A FEASIBILITY STUDY**

Knoeff S., L'Hoir M., Vennemann M., Boere M.

Background: Child mortality in the Netherlands declines gradually. In total 1.275 children and youth aged 0 to 19 years died in 2009. In 8 out of 10 cases the death was classified as due to a natural cause.

Child Death Review (CDR) has been introduced in the United States of America, Canada, Australia, New Zealand and the United Kingdom. All child deaths are examined in a systematic way through a multidisciplinary approach with the objective to improve cause of death statistics, to identify risk factors for generating preventive interventions, and to enhance support of families and professionals.

Aim: The objective of this study is to identify factors that promote or obstruct installation of Child Death Review teams in the Eastern part of the Netherlands.

Patients and methods: (Inter) national experts and institutes for reviewing child deaths were interviewed. In addition to this, two focus groups were held with professionals in child and family care and one with parents of a deceased child. A model for implementation of change in clinical practice is used to analyze the data.

Results: The results provide insights into the perceptions, opinions, beliefs and attitudes among professionals and parents towards Child Death Review. The most important barriers for implementation are the medico legal consequences, issues of confidentiality, time consumption, and the pending procedure to further investigate the cause of death in minors (NODO-procedure). The most important factors that promote CDR are the multidisciplinary approach, reviewing all child deaths with the parents' consent and the ongoing support to the family.

Conclusion: Implementation of CDR in the Eastern part of the Netherlands is feasible. In designing the CDR procedure we made use of knowledge on promoting factors and of solutions that were found for the observed barriers. In January 2011, the implementation pilot has started.

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CHANGES OF SEXUAL BEHAVIOR
DURING SIX YEAR PERIOD IN STUDENTS
OF THE FIRST YEAR OF STUDY

Koder-Kristof I., Juhović-Markus V.

Background: Social workers must be familiar with reproductive issues health from legal, sociological, cultural and medical aspects due to teenage pregnancy issues, intentional abortions, sexual violence and promiscuity encountered in their practice.

Aim: To examine and compare sexual behavior of two first year student generations on the Faculty of Law, Social work Study, in Zagreb.

Subjects and methods: Comparison of sexual behavior between students in academic year 2003/04 and academic year 2009/10. We used data from the Health Self-Assessment Charts related to reproductive health, supplemented by an interview during a systemic medical examination. As only two boys were examined the processed data contains girls only.

Results: In academic year 2003/04 59% of girls were sexually active while six years later 67,5% of them are. Six years ago 22% of girls had two and 2,7% had three partners during the last year. Now 4,7% of girls had two and none of them had three partners. 44,4% of girls reported regular condom use and 29,2% occasional while now 76,5% regularly use it and 14,1% occasionally. Oral hormonal contraceptives (OHC) were used by 23,6% of students and in by 2,7% in combination with condoms. Now, 17,7% of students regularly use OHC, and in 5,8% in combination with condoms. Withdrawal as contraception method was regularly applied by 23,6% students and now by 9,4% of them. 61,1% of sexually active has had gynecological examination in 2003/04 and six years later 64,7% of them were examined.

Conclusion: Despite a significant increase in the regular use of condoms and decrease in the number of sexual partners, increase of gynecologic examination was insignificant. A greater number of easily available counseling for young people is needed in which gynecologist will be working alongside with school doctor.

110 MINERAL DENSITY OF THE BONE TISSUE IN SCHOOL CHILDREN OF KRASNODAR REGION

**Kondratyeva E., Kleschenko E., Zobenko V., Trubilina M.,
Sutovskaya D., Khapacheva D.**

Background: Formation of regional standards of mineral density of the bone tissue (MDBT) in schoolchildren of Krasnodar Region with the aim of osteopenia diagnostics.

Aim: To study MDBT in schoolchildren of Krasnodar Region.

Patients and methods: 526 children of the I and II health group aged 11 to 18 years from them 373 girls (71%) and 153 boys (29%), living in Krasnodar Region were investigated. Anthropometrical researches, poll for revealing of osteoporosis risk factors were conducted. MDBT study of distal radius was carried out by osteodensitometer «DTX-200» (USA). Skeletal mineralization level was evaluated by Bone Mineral Density ($BMD = g/cm^2$). Statistical manipulation of data was carried out by integrated package «Statistika 6 for Windows» At analysis of the received data the average quadratic deviation (σ) and median (Me) were determined. Centile tables were formed; series of regression curves were constructed. Differences of indicators were considered significant at $p < 0,05$.

Results: MDBT centile tables on distal radius for Krasnodar schoolchildren for densitometry results interpretation at osteopenia diagnostics in children were developed and formed. In boys and girls of different age periods accumulation of mineral substance of the peripheral skeleton occurs unequally. If in girls aged 11 years BMD indicators differed from BMD indicators of girls aged 14 to 15 years ($p < 0,05$), then in boys aged 11 years it differed from indicators of boys aged 16 years ($p < 0,05$). At that the total body bones mass from 11 to 16 years is increased by 67% in boys and by 63% in girls accordingly. MDBT increase was registered in boys with a height above 170 cm ($p < 0,005$), and in girls with a height above 155 cm ($p < 0,005$). MDBT decrease lower than 5 percentiles were noted in 7% of children, osteopenia frequency in girls was 9%, and in boys 6,6%.

Conclusion: MDBT at school age depends on age, sex and physical development.

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CALCIUM INTAKE IN SCHOOLCHILDREN OF SIBERIA AND THE SOUTH OF RUSSIA

Kondratyeva E., Sutovskaya D., Khapacheva D.

Background: Calcium provision of the growing organism is of decisive importance to reach an optimum peak of the bone mass.

Aim: To establish calcium consumption with the foodstuff of schoolchildren, living in Siberia (by example of Tomsk) and in the South of Russia (by example of Krasnodar).

Patients and methods: 957 schoolchildren aged 7 to 18 years, living in Tomsk (528 children) and in Krasnodar (479 children) in the groups: 7–11, 12–14, 15–18 years old were polled. The method of food reproduction of weekly ration was calculated in accordance with the formula: calcium in dairy products (mg) +350 mg. Calcium average consumption was used. Receipt of calcium with food at level of 50–70% from age norm was considered as moderate deficiency, less than 50% – as marked deficiency.

Results: Only 39% (206) children in Tomsk and 50% (238) children in Krasnodar consume the recommended calcium quantity per day. The marked deficiency of the given nutrient was noted in 21% (113) Tomsk and 32% (155) In Tomsk reduction of quantity of children consuming enough of calcium with the years ($p \leq 0,001$) was observed. Significant differences in calcium consumption between regions were revealed only at age group of 7–11 years. The median of calcium intake made 791,64 (585,2–1046,4) mg/days in Tomsk respondents and 584,20 (354,4–899,7) mg/days in Krasnodar respondents ($p \leq 0,001$). Intake of the given nutrients in age groups of 12–14 made 794,4 (592,4–1102,1) mg/days in Tomsk and – 823,5 (470–1170) mg/days in Krasnodar, and in age groups of 15–18 – 785,6 (590,6–1088,3) mg/days in Tomsk and – 793,3 (356,2–1590) mg/days in Krasnodar.

Conclusion: Modern schoolchildren consume insufficient quantity of calcium with the food regardless of their region of residence that is evidence of necessity of the preventive actions organization.

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CIGARETTE SMOKING, ALCOHOL CONSUMPTION AND DRUG ABUSE IN STUDENT POPULATION

Kopsa M., Posavec M., Juhovicmarkus V.

Background: Smoking cigarettes, alcohol consumption and drug abuse in general population is one of the major public health concerns. Knowing frequency and comparison between cigarettes, drug and alcohol usage among young people is one of the basic information for early prevention.

Aim: To determine the frequency of usage and to compare smoking cigarettes, alcohol consumption and drug abuse in young student population.

Subjects and methods: In the academic year 07/08 a total of 8593 first year students, aged 18 to 19, (M = 41%, F = 59%) of the University of Zagreb, Croatia, fulfilled a questionnaire on cigarette smoking, alcohol consumption and drug abuse. They were also asked about sorts of drinks and drugs they experimented with.

Results: After data processing the results were: forty-seven percent of students have tried smoking cigarettes (45,2% male, 54,8% female), one third of them (34,8% male, 31,0% female) smokes more than five cigarettes a day.

Thirty one percent of students do not drink alcohol at all, while 73,7% of those who reported drinking have a drink at least once or twice a month. Women drink most commonly wine (26,9% of those who reported drinking), while 37,8% of men drink beer.

Thirty percent of students were both drinking alcohol and smoking cigarettes, while only 7,4% students have experimented with drugs, most commonly with cannabis (33,4%).

Conclusion: This research shows high frequency of alcohol consumption and cigarette smoking in student population in comparison to drug abuse. High percentage of these unhealthy habits leads us to reconsider existing prevention programs targeting primary drug usage. Early prevention through school medicine services in primary schools, prevention strategies through school curriculum and peer education could be some effective methods.

Background: Smoking cigarettes, alcohol consumption and drug abuse in general population is

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**FUNCTIONAL STATE AND PHYSICAL LOAD
TOLERANCE OF CARDIOVASCULAR SYSTEM
IN ADOLESCENTS, BORN FROM FATHERS-
LIQUIDATORS OF THE CHERNOBYL ACCIDENT
CONSEQUENCES**

Korenev N., Kostenko T., Borysko G.

Background: The data of special literature testify to significant changes in the circulatory system of descendants of irradiated parents at early stages of their development. That is why studying the status of cardio-vascular system in children, born into the families of liquidators of the Chernobyl accident consequences (LCAC), at the final stage of their childhood is of great interest.

Aim: To study the state of cardiovascular system and its tolerance to physical load in children and adolescents, born from fathers-LCAC.

Patients and methods: ECG ultrasonic, Doppler-echo CG with physical load (20 knees-bends during 30 seconds).

150 adolescents aged 16–18, born from fathers-LCAC, were under observation. Comparison of the cardiovascular system findings was made with those of 100 age-matched adolescents from Kharkiv population without hereditary burden as regards irradiation in their anamnesis.

Results: High incidence ($p < 0,05$) of cardio-vascular disorders was revealed in adolescents, born from LCAC, as compared with age-matching adolescents without radiation in their anamnesis. Decreased contractile myocardial ability (ejection fraction below 60%) was registered in 49,3% of patients, while in 28,6% of adolescents the ejection fraction was below 55%. A considerable incidence (118 per 100 and 55 per 100 in corresponding groups) of inborn small structural anomalies of the heart was accompanied by some signs of cardiac remodeling in the form of the LV dilatation according to the index of finite diastolic volume in 41,7% and lowered tolerance to physical load was registered in 47,9% and in 29% of patients in corresponding groups.

Conclusion: Cardiovascular system state in adolescents, born into the families of liquidators, was characterized by higher incidence of disorders in myocardium bioelectrical activity, in cardiac morph structure, by more pronounced decrease in myocardium contractile function, and tolerance to physical load as compared with age-matching adolescents without irradiation events in their anamnesis.

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**SPECTRUM OF THE PATHOLOGY
IN THE DIFFERENT TYPES OF CHILDREN'S
ORGANIZED COLLECTIVES IN ROSTOV REGION**

Kovaleva A., Polevichenko H., Volkova L.

Background: The health of children from socially disadvantaged groups attracts much public attention in recent years. Since 2008 in Rostov region (RR) it is carried out medical examination of orphans and children in difficult life situations (CDLS).

Aim: There is actual problem to reveal the leading types of pathology in this group.

Patients and methods: We performed the analysis of the results of complex clinical examination of orphans and CDLS in 2010. It was examined 8280 children from 133 organized collectives. The examination was carried out by specialists of Regional Children's Hospital (RCH) (1244) and local pediatric services with the involvement of leading experts from RCH. Children's collectives were divided into the following groups: educational institutions (EI) – boarding schools (6870 children) (2538 – from the specialized boarding schools for the children with mental retardation) and social protection institutions (SPI) – rehabilitation centers and social shelters (1410 children). The data were processed using by defining criteria for rating χ^2 comparing the leading pathology in EI and SPI with a coefficient of reliability $p < 0.05$ (*).

Results: It was found that the following pathologies occupy the leading positions: psychiatric disorders (16,3% of children in the EI and 17,8%* in the SPI) – the 1st place ranking in both groups, diseases of the gastrointestinal system (15,6% of the EI and 11,3%* in the SPI, the 2nd and 5th rank respectively), diseases of musculoskeletal system (13,1% and 14,8%* – the third and 2nd places), eye diseases (12,5% and 11,5%* – 4th place in both groups), diseases of the nervous system (10,6% and 14,2%* – the 5th and 2nd places, respectively).

Conclusion: Identified the structural features of pathology can develop programs for prevention, treatment and rehabilitation with a focus on specific types of children's organized collectives.

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HEALTH STATUS OF ADOLESCENTS IN VIEW OF FOOD STATUS AND ANTIOXIDANT ACTIVITY

Krasavina N., Pankratova O.

Background: Today, questions remain as ill-conceived screening background states in the teen group with use of non-invasive, painless examination methods that allow defining more precisely the state of health of the child and making a prediction for the future.

Aim: The purpose of the study – to examine the health status of students of the Perm State Choreographic School (PSCS) from 15 to 17 years using modern screening method – bio photons scanner, manufactured by Pharmanex, manufactured by NSE Products, Inc., USA. Develop a functional model of wellness to optimize their health, depending on the nutritional status and level of antioxidant protection.

The first will be developed wellness functional model of optimizing the health of students of ballet school, taking into account the level of nutrition and antioxidant protection.

Patients and methods: In the study: 60 children 1.2 health groups from 15 to 17 years, students PSCS. Comparison group: 40 adolescents 1.2 health groups from 15 to 17 years attending school athletics section and going to the usual method of recovery.

Results: According to the results of bio photons scan in a group of students PSCS 80% of the surveyed level of antioxidant protection below average (10 000–20 000 units on 50,000 scale), 20% of the average level of protection: from 30 000 to 38 000 units. In the group of adolescents engaged in athletics in 62% of the subjects' level of antioxidant protection average: from 30 000 to 40 000 units and 38% of teens – the level of antioxidant protection is above average.

Conclusion: Based on studies we can conclude that, prior to rehabilitation techniques state of antioxidant protection of organism students PSCS lower than those of adolescents engaged in athletics.

116 BULLYING AND DEPRESSION IN SCHOOL CHILDREN

Krnic S., Roje R.

Background: Bullying is quite frequent occurrence among school population and is a growing community problem. It can damage mental health of vulnerable school children and can be the cause of depression, increased anxiety, and loss of self-esteem or difficulty in establishing normal relationships. Studies showed that depressive disorder is the most common disorders associated with bullying.

On the other hand, children with mental disorders are «marked» and susceptible to be victims of violence. Such pupils have low self-esteem and view themselves in a negative manner what can ultimately lead to depression and suicide.

Aim: The intention of this study was to investigate the depression origin in thirty (30) victims of bullying.

Patients and methods: Patients were thirty (30) victims of bullying in age from seven (7) to twelve (12). They were all sent to psychiatrist by their school doctors with diagnosis of post bullied depression. Every victim was interviewed and evaluated by psychological tests and semi-structured psychiatry questioner for present and past lifetime (KIDDY SADS PL).

Results: It was found that eighteen (18) children out of 30 suffered from depression prior to bullying. Investigation revealed that other twelve children had also some kind of mental disorder before they were bullied. Two (2) of them had psychotic reaction, five (5) anxiety disorders and in five (5) children elements of autistic spectrum disorders were found.

Conclusion: Although depression was significantly present in all of them after bullying, according to the findings of present study, 60% of studied children had depression disorder before they were victims of violence. Depressed child has a great risk to be recognized by bullies as potential victim.

Consequently, it would be of utmost importance to educate all school professionals to early recognize the individuals with depression and other mental difficulties and ensure them support, help and treatment before they become bullying victims.

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SCIENTIFIC FUNDAMENTALS IN SOCIAL AND GYGIENIC MONITORING OF HIGHER EDUCATION STUDENTS TRAINING CONDITIONS

Kuchma V., Blinova E.

Background: The goal of the study has been determined by worsening higher education students health during vocational training, unsolved problem of regional social and hygienic monitoring (RSHM) of training conditions.

Aim: To substantiate RSHM-system of training conditions and health rates of higher education students for their prophylactic-epidemiological wellbeing support and health and quality of life management programs development.

Patients and methods: Systemic approach with complex factors' assessment in the system «vital activity – students' health» determined the investigation program and current hygienic, epidemiologic, statistic, physiological and sociological study methods. Training and vital activity conditions, health, quality and mode of life rates of 2160 Omsk high vocational institutes (medical, educational, service areas) students were the object for investigation.

Results: Training conditions in the studied institutions one can assess as satisfactory but having essential drawbacks: according to school surroundings parameters; educational load exceeding at the expense of extracurricular studies (for medical students). Training regimen and students' load control was not included to the Prophylactic-Epidemiological Supervision over higher education institutes. It has been found using principal components method that social and economic factors determine largest influence on common students' morbidity (49% of total dispersion). The second ecological factor (22% of total dispersion) is anthropogenic impact on common morbidity of students resident in megalopolis with large-scale industry and motor transport. The third one – educational factor (12% of total dispersion) is loaded by variables, characterizing the educational process (control resultant forms number during 10 terms of training in institute, training load).

Conclusion: Forming of students' health loss in the institute has a multiple-factor character; rates dependence simulators of student health loss in conditions of environmental complex factors impact have been developed; indices for RSHM management over conditions of students training and health in the institute were substantiated. Thus we conclude that it is reasonable to use RSHM with forming of information, analytical and interdepartmental instrument for the creation of target programs on prevention students' health disorders.

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PHYSICAL DEVELOPMENT OF MODERN SCHOOLCHILDREN IN MOSCOW

Kuchma V., Sukhareva L., Skoblina N., Besstrashnaya N., Il'chinskaya E., Milushkina O., Bokareva N.

Background: Sets of longitudinal observations of physical development of Moscow schoolchildren from 8 to 17 years old in 1960–1969 and 1982–1991 fixed the beginning of growth acceleration and development of child population in 1960s, its peak in the middle of 1970s and retardation elements in 1980–1990s (Ju. Yampol'skaya, 2003).

Aim: The third longitudinal study of physical development of Moscow schoolchildren has been carrying out since 2003.

Patients and methods: 500 children who have lived in Moscow for 5 years were examined by means of universal anthropometric methods in dynamics of learning. The study meets the requirements of biomedical ethics.

Results: The findings of 2003–2010 in all age-sex groups of students show a valid ($p < 0,01$) and a high valid ($p < 0,001$) increase of body length in comparison with their counterparts of 1960s and 1980s.

The chest circle of Moscow students in 1980s was smaller than in 1960s. It indicated the «gracilization» of body builds.

The findings of 2003–2010 in all age-sex groups of students show a valid ($p < 0,01$) and a high valid ($p < 0,001$) increase of chest circle in comparison with their counterparts of 1980s and 1960s.

The studies showed the change of body proportions in modern students. The increase of body length is combined with valid ($p < 0,05$) and high valid ($p < 0,001$) increase of leg length in modern boys and girls. The data appeal for the development of the requirements for children's goods.

Conclusion: There are positive trends in physical development of younger Moscow pupils.

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ROLE OF SCHOOL DOCTOR IN CREATION OF SAFETY CONDITIONS FOR HEALTH IN SCHOOL

Kuchma V., Sukhareva L., Stepanova M.

Background: Traditional system of schooling insufficiently considers the regularities of psycho-physiological development of children. The most aggressive school environmental factors are the following: a high volume of school loads, time deficit for the adoption of school information, an authoritarian style of teacher. They have an expressive psycho-traumatizing influence on a child; promote the formation of school- stipulated diseases, walks, motor performance.

More than half of Russian schoolchildren have poor health, two-thirds of children have chronic diseases and only 10% of school leavers are healthy. The contribution of school environment factors into the formation of schoolchildren's health is 40%. In this connection the innovative processes in school education must have a healthkeeping character.

Aim: To specify the innovative methods of schoolchildren's education which need in support of school doctor?

Patients and methods: The estimation of health state, features of vital activity and functional state of body in about 2000 pupils in grades 1–10 of comprehensive schools with using various innovative methods was carried out.

Results: The effective reduction of tiring influence of large educational load is reached through complex of measures. The innovative methods of scheduling, a steady alternation between learning and rest, the use of a personally oriented methods of education, the technologies of purposeful development of cognitive functions, the increase of children's motor performance in educational process allow to simplify the adaptation process of pupils to school loads and to decrease the frequency of cases of higher fatigue in twice or more, neurotization, higher anxiety, cases of acute morbidity.

Conclusion: These pedagogical methods provide steady working capacity, increase academic success, the optimization of schoolchildren's vital activity, their possibilities for the realization of basic biological needs in movement, sleep duration, staying outside.

120 TEACHING BOYS AND GIRLS IN SEPARATE CLASSES AND SCHOOLCHILDREN'S WELL-BEING

Kuindgy N., Laponova J.

Background: Teaching boys and girls in separate classes provides the formation of stereotypes of female and masculine behavior in students within the context of modern society. According to the data of pedagogical publications the masculine qualities such as strength, purposefulness, persistence, features of defender – soldier and others deserve the most cultivation during boys' upbringing.

Aim: To present the potencies to traditional masculine behavior in schoolboys we have analyzed the individual physical preparedness of body and its vegetative provision integrated into the index of physical health.

Patients and methods: Use of Bem's questionnaire on the formation of ideas of «masculine-female» qualities in boys finishing elementary school in gender and mixed-gender classes.

Results: 153 schoolboys were examined. 40,2% of boys had the index of health less than 3 balls. It described the «unsatisfactory state of their body», «low level of health reserves», «presence of several «weak» life support systems».

Outcomes of Bem's test found out the similar (74%) number of boys in gender and mixed-gender classes who correctly orientated in the choice of masculine qualities and ($n = 57$) $\approx 10\%$ of boys that only knew 2–7 masculine qualities out of 20 in the test.

Conclusion: The findings show clearly insufficient work of schools on teaching boys and girls in separate classes. It promotes a «deficit of masculine's» in modern society and it cannot be positive in realia of the social problems.

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EVALUATION OF EFFICIENCY
OF SOCIO-MEDICAL CARE PROVIDED
AT YOUTH-FRIENDLY CLINICS
IN THE RUSSIAN FEDERATION

Kulikov A., Vartanova K.

Background: Over 140 facilities providing youth-friendly services, created with the support of UNICEF, are successfully operating in the Russian Federation.

Aim: The need to carry out evaluation of the available models, types of the services provided, services coverage among adolescents, quality of the services provided at such facilities and their compliance with criteria and requirements of youth-friendly clinics is long overdue.

Patients and methods: Facts and data, which were obtained in the course of the self-evaluation process carried out at 23 youth-friendly clinics in Saint Petersburg, have been analyzed as well as the results of accreditation of 10 youth-friendly clinics in different Russian regions.

Results: A typical youth-friendly clinic is designed to serve 20,000 adolescents. Such a facility uses the services of 8 to 10 professionals, including a gynecologist, an andrologist, a psychologist, a social worker, a lawyer and an obstetrician. This medical facility provides a wide range of medical and socio-psychological services related to various health problems associated with the specifics of adolescence. The availability of an adolescent «territory» and confidentiality of the provided services are the principal distinctive features of a youth-friendly clinic.

According to the data obtained in only one of the cities, such as Saint Petersburg, the total number of visits to youth-friendly clinics located in the city stands at about 400,000 per year. Over a ten-year period, the number of abortions among underage girls has decreased threefold. The number of patients suffering from sexually transmitted diseases is decreasing continuously.

Immediate objectives include more intensive involvement of adolescents in the activities of youth-friendly services and the need to promote healthy life styles.

Conclusion: The creation of sustainable, highly popular and efficient youth-friendly services within the current system of government health care institutions is a fairly realistic goal.

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A DYNAMIC STUDY ABILITY MODEL

Kunttu K.

Background: In Finland, work ability and work ability models have been investigated for decades, whereas study ability has received less attention. Insufficient study ability has often been viewed, in a restricted sense, as a mental health problem or a motivational issue. Over the past decade, however, study ability has been discussed and defined as a multidimensional concept similar to work ability.

Aim: To create a dynamic study ability model.

Patients and methods: The model was drawn up on the basis of the model created by the Finnish Institute of Occupational Health and the Finnish Student Health Service. In this model, individual study ability is determined through four dimensions: personal resources, study skills, teaching, and study environment.

Results: Study ability is a functional entity consisting of several components that interact directly or indirectly. It is also a question of balance. For example, proper teaching, good studying skills, or a supportive study community may help one to cope, if a student's personal resources are temporarily compromised, or if there are problems with motivation. In turn, good personal resources compensate for poor studying conditions. Inadequate studying skills can be improved by counseling, by assisting students in finding optimal working methods and gaining self-confidence as learners.

Conclusion: By comprehensively influencing the different dimensions of the concept, it is possible to enhance an individual student's study ability. This is the duty of all organizations contributing to the students' daily lives and operating environment, including educational institutions, student associations, and student health services.

The study ability model is feasible for use in surveys, plans, and recommendations related to student health and wellness, both within health services and in educational institutions or student associations. It also provides a tool for identifying the various actors' roles and opportunities for co-operation aimed at supporting and promoting study ability.

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THE INFLUENCE OF CHURCH ATTENDANCE AND SES TO DRUG USE AND SELF-ESTEEM IN THE CROATIAN STUDENTS

**Kuzman M., Pavic Simetin I., Pejnovic Fraelic I.,
Rojnic Palavra I.**

Background: Church was rarer examined than SES but also had important role in youth health.

Aim: To examine the influence of church attendance and socioeconomic status (SES) on Croatian students' drug use and self-esteem.

Subjects and methods: The survey on Health Behavior in the University Students in 2009 was done (1082 males and 1302 females, mean age 19.9). Variables: frequent cannabis use (3 or more times in last 12 months), lifetime use of other drugs, drug use by friends, driving (as driver or passenger) under the drug influence, self-esteem (Rosenberg scale, church attendance and SES (measured by self-perceived family affluence). Multivariate (binomial and multinomial) logistic regression analyses were conducted (95% confidence intervals).

Results: Male students who attended church reported higher odds for: less frequent cannabis use (OR 1.97, CI 1.03–3.78), not using other drugs (OR 1.97, CI 1.03–3.78), and not having friends who use drugs (OR 1.56, CI 1.16–2.11). The church attendance was not associated to driving under the drug influence and to self-esteem. SES in the male students was not associated to any of dependent variables. Female students who attended church reported higher odds for: less frequent cannabis use (OR 4.81, CI 1.73–13.39), not using other drugs (OR 12.38, CI 1.69–90.78), not having friends who use drugs (OR 1.45, CI 1.12–2.86), and not driving under the drug influence (OR 2.20, CI 1.23–3.94). Among female students medium SES was associated to higher odds for not having friends who use drugs (OR 1.45, CI 1.12–2.86), high SES to higher odds for high self-esteem (OR 4.34, CI 1.45–13.02); medium SES to higher odds for high (OR 3.21, CI 1.25–8.28) and medium (OR 2.53, CI 1.04–6.16) self-esteem than to low self-esteem.

Conclusion: Students' church attendance was protective factor for several drug use items for both genders, while SES influenced only female students' self-esteem and friends' drug use.

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CONTEMPORARY SCHOOLCHILDREN'S ATTITUDE TO SMOKING AND ALCOHOL USE

Kuznetsov V., Kuznetsova L.

Background: Disregard of self-preservation instinct is typical for youth. Teenager's views on harmful habits nature and hazard to health present a great interest for teachers.

Aim: Research of schoolchildren's views on an impact of tobacco smoking and alcohol use on health.

Patients and methods: Questionnaire of schoolchildren from Moscow and Orel.

Results: The questionnaire showed that the vast majority of seniors regards tobacco smoking as a harmful habit (57%) or an illness (31%), 28% thinks it's just a fashion, 16% – a fun, 12% – a lifestyle. Alcohol use is regarded as a fun and weakness by 22% of schoolchildren, as a harmful habit and an illness – 29%.

Conclusion: The research showed the lack of understanding of future possible adverse consequences of tobacco smoking and alcohol use among schoolchildren, the lack of self-preservation instinct and responsibility for their acts. Therefore forming of youth's healthy lifestyle culture, becomes decisive for safeguarding and strengthen the health of adolescents. The application of informal, creative approach, using different forms of planning, social, sporting and others activities, is particularly important for forming schoolchildren's active vital position in confronting the harmful habits.

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SOCIAL ADAPTATION AND INCENTIVIZE A HEALTHY LIFESTYLE AMONG STUDENTS

Kuznetsova L., Kuznetsov V.

Background: Need to be healthy is inherent to a socially mature personality.

Aim: Evaluation of the state of social adaptation and lifestyle of students.

Patients and methods: questionnaire of random groups of students from Moscow and Orel.

Results: Pupils from Moscow school 368, where the upbringing a personality with the need of a healthy lifestyle innovation program is implemented, showed the best social adaptation (12.3 out of 20) and a healthy lifestyle (55.6 out of 80) rates. These averages are significantly higher ($p < 0,05$) than averages from other educational institutes. HEI's students social adaptation and a healthy lifestyle rates amount to 11,6–11,65 points and 42,9–46,1 points, respectively. From 26,2 to 35,0% medical students do not comply with the healthy lifestyle principles.

Conclusion: Upbringing the youth's healthy lifestyle culture should be based on the formation of personality traits that help a person to take an active, responsible attitude concerning the maintenance of health. Application of the personal-developing education program promotes the successful formation of student's positive incentives to living a healthy lifestyle.

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SCHOOL CHOICE AND VOCATIONAL GUIDANCE OF PUPILS WITH CHRONIC DISEASES IN VARAŽDIN COUNTY OF CROATIA

Lancic F., Musil V., Majskicesarec S.

Background: Vocational guidance is a multidisciplinary activity founded on scientific bases of medicine, psychology, pedagogy and other sciences which provides systematic, complex and continuing help to the person in the career developing process. It sustains professional informing, counseling and selection. School medicine doctor monitors pupil's health condition during the school time by preventive and specific measures as well as their professional development.

Aim: To present reasons for vocational guidance in 10 primary schools in Varaždin County in Croatia from year 1997 to 2010.

Subjects and methods: The study included 5800 8th grade pupils in 10 primary schools from year 1997 to 2010. On regular systematic examination in 8th grade of primary school, school medicine specialist gives assessment of pupil's psycho-physical abilities for further education. During examination, counseling is provided for all pupils, and vocational guidance for pupils with chronic diseases and developmental difficulties. All procedures are oriented to personal abilities and preferences.

Results: Vocational guidance was performed on 538 (9,3%) pupils with chronic diseases and developmental difficulties. The main reasons for vocational guidance were mental and behavioral disorders in 128 (37,3%) boys and 70 (35,9%) girls. After vocational guidance, pupils received assessment with suggestion for at least two occupation opportunities. Sixty seven pupils (12,5%) didn't follow the suggestion of expert team, because of subjective or objective reasons.

Conclusion: Through follow-up of pupil's growth, development and health condition, school medicine specialist monitors opportunities for career choice. Special attention is needed for schoolchildren with chronic diseases and developmental difficulties, because of limited occupation choices. Parents and pupils should be informed before career choice, about diseases or limitations in order to develop interests for occupation without contraindication on time.

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STUDENTS WITH DISABILITIES IN PRIMARY SCHOOLS OF VARAŽDIN COUNTY

Lancic F., Musil V., Mikulic B., Mlakar I., Hip E., Poljugpikija B.

Background: According to WHO data, about 10% of children have some disabilities. In the Register of Persons with Disabilities in Croatia, 5,8% of children in primary school have difficulties that require an appropriate form of education. Leading problem are disorders of speech and voice communication.

Aim: To examine the prevalence and type of disability among primary school students in Varaždin County and to analyze difficulties in treatment and involvement of students in school.

Subjects and methods: The study comprised 15622 primary schools students in school year 2009/10. We analyzed proposals for education given by School Committees for Assessment of Child Psychophysical Status.

Results: Assessment for appropriate form of education was given to 828 (5,3%) of primary school students. The majority of them had more kinds of difficulties (47,5%), followed by disorders of speech and voice communication (31,4%), mental retardation (7,6%), physical disability (7,4%), behavioral disorders (3,5%). In adapted educational program were included 49,3% of students. Education with individual approach required 25,4%, special program 17,9% and extended professional treatment 2,3% of students with disabilities. All schools have at least one professional person in staff, teacher or a social educator. Other profiles as psychologists, speech and occupational therapists usually missed. There is also insufficient number of schools that can perform certain types of education (partial integration, extended professional treatment or special program).

Conclusion: Successful education of students with disabilities requires educational and rehabilitation procedures. Education of students with disabilities is regulated by the Law on Education in Primary and Secondary Schools and the Regulations on the Education of Students with Disabilities. Currently, the number of schools and number and types of experts for carrying out of certain programs is still insufficient.

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**PSYCHIATRIC NURSES' ROLE
AND EXPERIENCES ON ADOLESCENTS
MENTAL HEALTH PROMOTION IN SCHOOL
AND STUDENT HEALTH SERVICES**

Lassila A., Jyrki W., Liinamo A.

Background: Among school aged children's and students, an increasing need for psychosocial support has been identified. In recent years the Helsinki Health Center has hired psychiatric nurses into school- and student health care services. This study is part of a collaborative research and development project between The Helsinki Health Center and Helsinki Metropolia University of Applied Sciences. The project is focused on children's and adolescents health promotion.

Aim: The purpose of this study was to describe psychiatric nurses' role and experiences as an adolescent mental health promoter in schools and student health services.

Patients and methods: The data was gathered in January 2010 by interviewing six psychiatric nurses about their experiences of working in school and student health services in City of Helsinki. The theme interview data was analyzed by applying the inductive content analysis method.

Results: Psychiatric nurses used various methods for the assessment of student's support needs. As their working methods they named the solution-oriented and empowering advice. They also described their practices in documenting, reporting and consulting. They worked cooperatively inside the school community as well as with external parties and families. They felt that they are easily approachable for students and school and student health care unit is an important instance for promoting adolescents' mental health. As developmental needs they indicated better opportunities for the professional development of their work together with colleagues and an opportunity to consult psychiatrist.

Conclusion: Psychiatric nurses seem to have an important role in adolescents' mental health promotion. These results show that psychiatric nurses' role would be important to clarify so that their professional skills could be better used by adolescents and cooperative instances in the best possible way.

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AUTONOMIC REGULATION STATUS OF DIFFERENT HEALTH GROUPS OF RECRUITS

Latina A.

Background: The choice of preventive measures for disease development should not only consider the degree and nature of structural and functional abnormalities, but also peculiarities of autonomic regulation of diseases (V.G. Maydannik, O.V. Sulikovska, 2005).

Aim: To investigate the state of sympathetic and parasympathetic regulation in various recruits with a chronic disease in remission.

Subjects and methods: In total, 100 18–19 year-old young men were examined.

Results: The study of recruits' health found a significant advantage of health group III ($51 \pm 4,9\%$, $p < 0,05$), indicating a high level of healthy youths at the beginning of military service. However, among the examined men, there is high proportion of young people with functional disorders and chronic diseases of viscera and musculoskeletal system. They make up $49 \pm 3,8\%$ (group II – $38 \pm 4,8\%$, group III – $11 \pm 3,1\%$).

Youths' autonomic regulation status is characterized by the balance of the sympathetic and parasympathetic nervous system ($73 \pm 4,4\%$). Percentage of young men with domination of the sympathetic nervous system over the autonomic regulation ($23 \pm 1,9\%$) was significantly higher than of youths with the domination of the parasympathetic nervous system ($11 \pm 4,2\%$). At the same time, young men with a chronic disease in remission have a balanced autonomic nervous system in $75,5 \pm 4,3\%$, while sympathetic regulation is predominant in $18,9 \pm 2,3\%$ and parasympathetic in $5,7 \pm 3,9\%$ of cases.

Conclusion. Such structure of autonomic regulation of young men with a chronic disease indicates the inclusion of autonomic imbalances to the pathogenetic mechanism of disease development and requires both the use of traditional treatment and the correction of the autonomic state of the organism.

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CHILDREN'S TEST «ZDRAVIK»**Lazarev M., Poyblat O., Faizova N., Novoselova E.**

Background: A number of different tests to examine the levels of development and health of children are used in the state education and health care. However, such diversity is not always possible to build a system of continuous monitoring to standard methods of the results handling.

Aim: There was a task in the research: to develop a testing program that meets a variety of criteria, such as: accessibility in the understanding of test results by the child, simplicity, small number, the connections with the base arbitrary functions of the body of the child, etc.

Patients and methods: The summary test «Zdravik» was developed, which includes indicators such as: high tempo endurance, memory, sound-and-breath sample, health stability (absence of diseases).

The two groups of children of preschool age (3–4 years) were examined of the 2008/2009 school year in the kindergartens of Tyumen region: an experimental group (104 persons), engaged for a year according to the program «Hello!» And the control group (104 people) not engaged in this program.

Results: From the beginning of the year the number of rates in the control concerning health and development group was higher (the experimental group/the control group: high-tempo endurance – 1,2/1,3; memory – 0,6/0,8; sound-and-breath sample – 0,7/1; self-esteem – 0,9/1,32; health stability – 1,46/1,32). But at the end of the period health and development rates in the experimental group have improved in comparison with the control group (1,81/1,58; 1,4/1,6; 1,1/1; 1,38/1,3; 1,47/1,42).

From the beginning of the year the number of rates in the control concerning health and development group was higher. But at the end of the period health and development rates in the experimental group have improved in comparison with the control group.

Conclusion: The test «Zdravik» has allows to assess the rehabilitation results and to maintain the express-monitoring as well concerning the child's development within his family and in kindergarten.

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EVALUATION OF NUTRITION OF CHILDREN IN FAMILIES WITH DIFFERENT MATERIAL CIRCUMSTANCES

Leonova I., Yanushanets O., Khomich M.

Background: Topicality. Social-economic reforms in the country have defined occurrence of new social groups of the population. It has affected nutrition of schoolboys and has defined an urgency of its profound studying.

Aim: Objective: qualitative and quantitative assessment of nutrition of schoolboys in families with different financial situation.

Patients and methods: Patients and Methods. 2-week monitoring of nutrition of children of 10–14 years from 660 «poor» (earnings less than 1500 roubles on the person) and 113 «rich» (earnings more than 15000 roubles on the person) families was held in 2004. The daily diet was compared with the recommended dietary standards, and was isolated groups of high, medium and low risk.

Results: Results. Less than 75% of children eat 3–4 times a day; every fifth child eats only 2 times a day. 9% of children in «rich» families and 24% in «poor» are carried to group of high risk of imbalance of a diet.

Children from «rich» families eat significantly more milk, cottage cheese, meat, fish, fresh vegetables and fruit, and as lemonades, chips, fast food is more often. Groats, macaroni and a potato prevail in nutrition of children from «poor» families.

Non-observance of a balanced diet both in «poor» and in «rich» families leads to more frequent occurrence of anemias, immunity disorders and pathology of accommodation and refraction. 34% of children using fast food in «rich» families have obesity. And at 33% using chips, lemonades more often 1 time a week – illnesses of kidneys.

Conclusion: Conclusion. The performed study has shown that the problem of rational nutrition exists in the families with both low and high level of incomes. Perhaps a balanced diet of schoolchildren is determined not only the material situation of the family, but also depends on the level of parental education.

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SCHOOL NURSE'S ROLE IN CHILDREN HEALTH PROTECTION

Lepp K., Hazinskaja V., Essina T., Plisko N.

Background: The main reasons of children's and teenager's death are trauma and intoxication which make the third part of all death. Injuries are the main reason of the death among pupils under the age of 19 in Estonia. This is the highest death rate in Europe in comparison with such countries as Finland, Sweden and Norway where is the death caused by injuries is 4 times less.

Some changes appeared in school health service arrangement and content in September 2010 in Estonia. Health service at schools provided only by nurses with appropriate training. Nurses, in addition to their everyday responsibilities, teach pupils how to administer the first aid.

Aim: The aim of this study is to get practical and theoretical skills in first-aid treatment.

Patients and methods: Different techniques are used during the training in first-aid treatment and the following principles are taken into consideration:

1. Role plays connected with real life are used in primary school.
2. Situations closer to reality are introduced in secondary school.
3. Topics, which have been covered earlier, are studied thoroughly in high school.
4. Practical training is introduced as well. The younger the pupils are, the less theoretical training they have.
5. The main reason of the training in each age group is injury prevention.

Lectures, discussions, group work, role plays, competitions, models, audio and video materials are used during the training.

Results:

1. Knowledge concerning first-aid treatment and trauma prevention are being improved among pupils.
2. Pupils can put into practice their knowledge in situations where the first-aid treatment is needed.

Conclusion: European Resuscitation Committee (ERC) emphasizes the necessity to educate the population to administer the first aid. School nurses in Estonia started addressing the problem more comprehensively and systematically from this school-year.

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E-EXPERIENCE FROM TALLINN

Lepp K., Hazinskaja V., Lorvitalisainen S., Zhmarjova R.

Background: Since the school-year 2010 Estonian school health service is an independent nursing-service with an emphasis on health promotion and disease prevention. The medical monitoring of students was directed to family doctors. The health status of pupils was not synchronized between different parties and the health information about patients was insufficient.

Aim: The ESH system is a web-based software which main goals are the following:

- increasing the level of bureaucracy in the school healthcare providers work process;
- making the health information accessible for the attending partners;
- developing health care services that are more patient friendly and have higher quality;
- using Tallinn best practice all over Estonia.

Patients and methods: The e-School Health was elaborated by the Foundation for Healthcare at Tallinn Schools in collaboration with the city government of Tallinn. All nurses were trained to use the ESH system.

Results: The first period of implementation has shown that ESH system is a good tool in everyday work. Through that pupils' health data exchanged between family doctors and school nurses, the health status of children is monitored systematically and it enables to give health education and first aid in the best possible way. Implementation of ESH system has strengthened cooperation between interested parties and increased the quality of service.

Conclusion: Established e-School Health system needs to extend and develop as an innovation tool to achieve an equal access and quality of health care service.

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QUALITY OF YOUTH FRIENDLY HEALTH SERVICES (YFHS) IN REPUBLIC OF MOLDOVA IN RELATION TO YFHS QUALITY STANDARDS

Lesco G.

Background: of this paper is to present main results of baseline assessment of the quality of YFHS in Republic of Moldova in relation to YFHS Quality Standards approved by MoH in 2009.

Aim: data obtained from baseline assessment of the quality of YFHS conducted in 2009 in Republic of Moldova.

Patients and methods: Methodology was based on WHO guidelines of assessment health services for adolescent clients. And was based on characteristics of adolescent-friendly health services that are most closely aligned with the established 6 quality standards. To collect data was used 5 tools: Yang client interview tool; Health-care provider interview tool; Health facility manager interview tool; Yang person-in-community tool and Observation guide. In the sample 12 Youth Friendly Health Centres (YFHCs), 2 Woman Health Centres (WHCs) (out of existing 3) and 6 Reproductive Health Offices (RHOs) (2 per geographic region, out of a total number of 47) have been included.

Results: The overall score of compliance to characteristics of adolescent-friendly health services aligned with the all 6 YFHS Quality Standards was near the 57% at the standards pre-implementation stage. Highest overall score (60%) was established in the YFHCs, lowest (49%) – in the RHOs. The highest compliance was to the standards related to accessibility and acceptability of the services (67–70%). The lowest compliance was for the standards related to effectiveness and comprehensiveness of the services (41%).

Conclusion:

1. These findings are in line with the main efforts that have been undertaken in this first phase of establishment of YFHCs in Republic of Moldova – establishing confidential services and providing free or low cost services in a friendly manner.
2. The next phase of YFHS implementation should keep obtained achievements and focus more efforts to increase effectiveness of YFHS and the community's support of health care seeking behaviour among yang people.

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**SCIENTIFIC CO-WORKER KATHOLIEKE
UNIVERSITEIT LEUVEN**

**Leroy R., Bogaerts K., Hoppenbrouwers K., Martens L.,
Declerck D.**

Background: Dental visits at very young age are important; children have to experience dental care on a regular basis to avoid invasive treatments and build up positive experiences. In Belgium it depends entirely on the parents whether a (pre-school) child is seen by a dentist.

Aim: To describe the dental attendance pattern of young children in Flanders (Belgium).

Subjects and methods: Data were collected from 1057 children who served as controls in an oral health promotion study ('Smile for Life') and who were followed since birth. At age 3 (2007) and 5 (2009) they were examined by trained dentists and parents completed a validated questionnaire. Logistic regression analyses were performed to explain dental attendance up to the age of three and five years.

Results: Data were available for 56% and 66% of originally selected children (age 3/5 respectively). At the age of 3 years, 62% and by 5 years, 21% had never visited the dentist. Of 3 year-olds who had already visited the dentist, 67% did so for a check-up, 1% because of a toothache and 14% because of dental trauma. The first dental visit was considered a pleasant experience for 71% and 65% of the 3 and 5-year-olds, respectively. According to 6% (age 3) and 7% (age 5) of parents, the dentist they consulted did not want to treat caries on deciduous teeth. Multivariable regression analyses revealed that children who were not first-born, whose mothers had a higher educational level and whose parents had recently visited the dentist had significantly higher odds for having visited the dentist at young age.

Conclusion: The majority of parents confirm that a dental visit was not traumatic for their preschool child. Parents of young children need to be informed about and motivated for an early dental visit. Promotion campaigns should focus on first born children, children from less educated parents and parents who do not regularly see a dentist. Dentists need to be motivated to treat (or refer) their youngest patients.

Study supported by GABA International.

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HEALTHY CHILDREN IN SOUND COMMUNITIES, AN INTERVENTION STUDY

L'Hoir M., Kloeze E., Schmelt D.,
Boere-Boonekamp M., Naul R.

Background: In recent years there has been a shift to focus the benefits of physical activity as a new integral part of public health policies to counteract the growing epidemic of obesity in childhood.

Aim: This study aims to promote an active lifestyle for all young people by a multi-sector network strategy on community level.

This Dutch-German project «Gesunde Kinder in gesunden Kommunen» (gkgk) implements: daily active commuting to school; 2 hrs. health enhanced physical education (PE) per week; 1 hr. specially tailored PE lessons for selected groups of PE classes which need special support for their physical fitness and complex motor development per week; 1 hr. health and media education, 2 times health enhanced physical activity units of sport clubs in the afternoon and advices to promote sleep. Currently, 6 Dutch and 6 German municipalities with in total 36 elementary schools participate in this intervention project.

Patients and methods: To achieve a more active lifestyle, feedback reports of BMI, physical fitness and motor development is given to parents, teachers and coaches in each school year (4 years longitudinal intervention, from grade 3 to grade 6 in Dutch elementary schools (grade 1–4) in German elementary schools (age 6 to 10).

Results: Two pilot studies were conducted in the municipalities of Velen, DE (n = 124) and Winterswijk, NL (n = 459). A physical fitness test (gkgk-test) was applied in a cross-sectional (NL) and a longitudinal study (DE). Results of the German study proof that a 6 months training program lead to a better BMI (reduction grade 3/stabilization in grade 2) and a better basic motor fitness profile for different percentile groups (e.g. $P < 25$). The Dutch results were related to daily playing outside and lower BMI. A latent class analysis showed that sleep duration was an independent risk factor.

Conclusion: Individually tailored courses for children seem effective to further progress physical fitness. Sleep and eating advices are supplemented to achieve a sound development of the BMI.

137 YOUNG PEOPLE'S VIEWS FOR THE DEVELOPMENT OF SEXUAL HEALTH SERVICES

Liinamo A., Nikula A., Vilkkio R.

Background: The study is part of Metropolia University of Applied Sciences' project aimed to evaluate and develop sexual health promotion (SHP) in student health care services. The project is runned to implement the national guidelines stated in the first National Action Programme for Sexual Health Promotion 2007–2011. Adolescents' SHP and developing health professionals' SHP competence are among the main priorities of the programme.

Aim: The aim of this study is to explore young people's experiences and views of sexual health services

Patients and methods: The non-probability sample included data from 534 students in high schools (n = 355) and vocational institutes (n = 179) in two cities in Finland. Data was collected by web-based survey using the questionnaire including structured and open questions.

In this study young people's answers (n = 334) for the open question: How do you think sexual health services should be improved to reflect better the needs of young people, will be described. The data was analyzed using data based inductive content analysis.

Results: The expressions of student's opinions formed three core categories to describe the needs for the improvement of sexual health services. Three core categories (and their subcategories) were: SHP service needs (accessibility, content and quality, structure and method), Privacy and Confidentiality and Professional Competency (knowledge, interpersonal skills, attitudes, counseling). These categories include variety of dimensions and concrete suggestions for the improvement of sexual health services to reflect better the SHP needs of young people. These results will be presented more detailed in the presentation.

Conclusion: Empowerment and participation of the population are main values in health promotion and in the development of health promotion actions. In this project young people's views will be respected for the development of SHP methods services and they will be active partners during the future development.

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THE OPINIONS OF STUDENTS, PARENTS AND TEACHERS ABOUT HEALTH AND LIFESTYLE

Lipanova L., Nasybullina G., Nojhkina N., Konysheva T.,
Malyamova L., Tatareva S.

Background: Promotion of healthy lifestyles, strengthening the health of children and teenagers is an important medical and social problem of modern society.

Aim: The purpose of the study was to Explore the opinions of pupils, parents and teachers about health and lifestyle and to identify key areas of prevention work with pupils.

The study was conducted as part of the program «Improving organization of medical aid to students of educational institutions in the Sverdlovsk region» (2009).

Patients and methods: The study group was 5738 students of 4–11 classes, 7703 parents and 497 teachers. The method of research was a one-time anonymous questionnaire.

Results: A large part of the students (40–70% at various age) have symptoms of deviations in health and behavioral risk factors. Children copy their parents' life style. As they grow older students' medical activity increases (doctor visits, vaccination), but preventive activity decreases (physical activity, routine daily schedule, balanced diet); 6% of children and 16% of parents do nothing for health promotion. 67% of children and 58% of parents think that their knowledge and skills are sufficient for health promotion. Leading sources of preventive knowledge for children are parents (85%), and for parents are medical workers (75%).

More than 90% of pupils and parents are interested in improving the quality of medical care and strengthening preventive work at school.

More than 90% of them are engaged in preventive work on students, with the preference to use methods of training (lectures and discussions). The most effective (interactive, individual) methods are seldom used.

Teachers note the absence of the systems approach to work at the schools and their own lack of preventive knowledge.

Conclusion: Results of the research are used to develop preventive maintenance school programs.

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THE MEDIKO-SOCIAL CHARACTERISTIC OF YOUTH AT THE AGE FROM 15–21 YEARS (IN THE REPUBLIC OF SAKHA (YAKUTIA))

Lutskan I.

Background: Despite an established opinion that youth — the most healthy category of the population, at the age of 15–21 years are observed the highest rates of increase of a case rate, according to medical institutions, the youth comes to study to vocational training establishments already with high level of a case rate of organs of vision, digestion systems, posture disturbances.

Aim: On basis medico-social researches to develop ways and ways of formation of healthy behavior of youth and the basic directions of protection of its health.

Patients and methods: 3000 young men at the age from 15–21 years, trained in educational institutions, Clinical, Statistical the Method of expert estimations Sociological.

Results:

1. The aggravation of symptoms of health of youth becomes perceptible: number growth for the first time the taped chronic diseases at youth in 1,2 times; augmentation of an indicator of the general case rate according to preventive medical inspections on 42,5% that exceeds an indicator of the general case rate according to negotiability to 1,4 times; augmentation of number of the students, suffering several diseases on 28%.
2. At the majority of youth the low motor performance isn'ted. Quarter interrogated 24,5% at all aren't engaged in physical training and sports, and 43% are engaged irregularly. Estimating a sleep pattern, it is necessary to notice that till midnight lie down only 24% of students. In a student's ration prevail flour 37,8% and fat 31,8% nutrition. From the interrogated students 44,2% recognize that eat irregularly, at every third 32,6% that character of a food after entering in high school has worsened. It is taped that 39,1% of respondents smokes, and 38,4% smoked earlier. Spirits use 78% of the interrogated students.

Conclusion: Working out of the complex program on improvement of a state of health of students and formation of the equipments on healthy behavior among studying youth taking into account specificity of each region of the Russian Federation is necessary.

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STRATEGIES OF SCHOOL HEALTHCARE DEVELOPMENT IN SVERDLOVSK REGION

Malyamova L., Tatareva S., Nasybullina G., Nojhkina N., Lipanova L., Anufrieva E., Moiseeva N.

Background: The state of health of the pupils in Sverdlovsk region is marked by increasing sickness rate and declining physical development.

Aim: To create the State support system for development of school health care and realization of prevention programs at schools on the territory of Sverdlovsk region.

Patients and methods: The extend clinical examination of teenagers between 13 and 14 years old; selective examinations of frequency of the most widespread disturbances with rating of risk factors for their development (6546 persons) were carried through. The way of life and the attitude to the health was explored by 5738 pupils, 7703 parents and 497 teachers. The method of testing for drug usage by pupils was tested (6000 teenagers). The quality of medical services and conditions for realization of prevention programs were studied in schools of Sverdlovsk region.

Results: In order to unify the requirements to the delivery of health care for pupil the sectoral territorial standard of medical services was introduced into the general education institutions. After certification of school medical stations according to the requirements of the Standard, the plan of their reequiptment and licensing was created.

On the basis of the results of clinical examination and social research, the proposals for optimization of preventive and health-improving actions, that were included in the Conception «Improvement of delivery of health care to the pupil of general education institutions in Sverdlovsk region for the period until 2025», in the Regulations of the Government of Sverdlovsk region, in the joint decrees of the Ministry of Public Health and Ministry of General and Vocational Education of Sverdlovsk region, were supported.

Conclusion: The Conception «Improvement of delivery of health care to the pupil of general education institutions in Sverdlovsk region for the period until 2025» is substantiated; the organizational, legal and regulatory framework for its realization is created.

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**ACTUAL HYGIENIC PROBLEM
IN EDUCATIONAL INSTITUTIONS
IS PREVENTIVE MAINTENANCE OF A SPASM
OF ACCOMMODATION AND MYOPIA WHICH**

Mamicheva N., Popova O., Nikitenko S.

Background: Actual hygienic problem in educational institutions is preventive maintenance of a spasm of accommodation and myopia which lead to decrease in quality of life of children and cause difficulties in mastering of a program material. In Resource center «health School» № 1317 system of improving actions is directed on early revealing of infringement of the visual device at children, and also creation of such conditions in educational institution which allow compensating and warning the given deviations in a state of health.

Patients and methods: Complex ophthalmologic investigation of all pupils for the purpose of monitoring of a state of health, appointment of medical actions and the work organization on hygienic education on protection of sight among pupils, their parents and teachers is twice a year carried.

The system of actions includes:

1. Use of gymnastics for eyes of prof. E. S. Avetisova
2. Programno-computer treatment for removal of a spasm of accommodation («Relax», «Flower», «Spider», «Dagger») at which there is a local and general irritation of a retina bright color dynamic stimulus.
3. Hardware treatment («Streamlet» – training of the mechanism of accommodation and exhaustion decrease at work at the computer); a ruler (treatment by a technique of prof. V.I. Serdjuchenko, V.V. Kovalenko)
4. Medicament us treatment for stimulation muscles and convergence decrease that promotes reduction of pressure of an internal direct muscle approximately and leads to a stop of a stretching of an eyeball.

Results: Creation health preservation is environments a priority in preventive maintenance of diseases of the visual analyzer. Use of modern multimedia means at lessons according to hygienic requirements, carrying out at each lesson of gymnastics for eyes, application the ophthalmologic training apparatus «Zevs» within educational day, correct selection of educational furniture for pupils, observance of norms of natural and artificial light exposure, and also formation of steady motivation on health preservation are solving in the decision of the given problem.

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NURSE'S ROLE IN SCHOOL HEALTH AT PORTUGAL, A LONG TIME INTERVENTION

Maria B., Silveira A., Calado A., Andre C., Menezes J., Matos P., Brandao C.

Background: In Portugal there is a National School Health Program (PNSE) which is implemented jointly by the Health and Education ministries. Its implementation requires professionals from both ministries to communicate and articulate, to identify needs and priorities for intervention. The strategies of PNSE are to develop and improve the health of children, young people and the wider educational community, with suggestions for activities based on two axes: the surveillance and protection of health and acquiring knowledge; skills and competence in promoting health.

The health school teams have a key role in raising awareness and strengthening the skills of the entire school community.

Aim: The challenge posed is the development and use of innovative approaches to teaching and learning, which includes active-participatory interventions, working with peers and promoting personal and social skills

Patients and methods:

Patients are all School Community.

Methods: A multidisciplinary team of School Health, at Community Care Unit Amadora +, enhances the implementation of 'long path' projects, designed together with school community, diagnose health needs (from Kindergarten until the end of High School) and monitors health indicators.

Results: The rates of vaccination coverage in the student population, had an improvement of approximately 25%.The number of children with special health routed and handled increased by 50%.The number of projects driven health promotion in schools has increased about 50%.

Conclusion: Within the school health team, the nurse monitors health indicators, coordinates and implements interventions in health promotion and development of personal and social skills of the entire school community, promoting active participation of the individual and family in health care, enhancing and establishing the link with the existing resources in order to achieve health gains.

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THE ROLE OF RADIOLOGIST IN MANAGEMENT OF JUVENILE IDIOPATIC ARTHRITIS (JIA) OF TEMPOROMANDIBULAR JOINT (TMJ)

Marinescu-Gava M.

Background: JIA is a chronic, generalized collagen vascular disease with variable multisystem manifestations. It causes joint inflammation for at least six weeks in children 16 years old or younger and is the most common childhood arthritis.

TMJ involvement in JIA and may be the cause of serious disturbances in growth of maxillo-facial area, depending on age of onset and duration of arthritis. TMJ arthritis is difficult to diagnose at an early stage since relatively few symptoms and clinical findings are related to this joint. The treatment and follow-up of the disease vary greatly. The best results are achieved by team effort and co-operation of dentist, radiologist and rheumatologist.

Aim: Definition of good practice in the team effort, especially the role of radiologist in management of JIA in children, based on review of literature.

Patients and methods: JIA differs with the joints affected, symptoms and blood test results. TMJ is often involved, but sometimes overlooked by clinician. The frequency of TMJ involvement varies and the subjective, clinical, and radiological findings do not always agree, probably because of differences in methods and patient samples. This TMJ disease may have major dental, cosmetic and functional consequences. It is recommended screening all patients who have TMJ pain or report any functional problems with limitation of jaw movement, especially restriction in opening.

Results: The best and most cost-efficient way to screen these patients is controversial, but contrast enhanced MRI has been established as gold standard.

Conclusion: Recent studies have stressed early diagnosis of TMJ involvement in children with JIA to initiate treatment before destruction of the condylar head and growth alterations take place. Enhanced MRI is very efficient in diagnosing early inflammatory changes of the TMJ and is a more sensitive method than the clinical examination and plain radiographs.

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USE OF NEW TECHNOLOGIES AND SPECIALIST SERVICES IN DENTAL HEALTH CARE OF FINNISH STUDENTS

Marinescu-Gava M., Vuorinen A., Suuronen R.

Background: In Finland there are national guidelines regarding the indications and timing of wisdom teeth extraction. In Finnish Student Health Services in Tampere there are performed an average of 1200 operative extractions of wisdom tooth per year, mainly done by general dentist.

Aim: Aim of study is to assess the incidence of inferior alveolar nerve injury during operative wisdom tooth extractions when performed by the oral and maxillofacial surgeon and preoperative imaging included pantomography and cone beam computed tomography (CBCT).

Patients and methods: This retrospective study includes 62 teeth from 44 patients (20–34 years old), 24 males and 20 females, operated during 04/06–10/07 and 01/08–12/08.

Radiographic evaluation of wisdom teeth is initially done on panoramic tomography by general dentist. When extraction is indicated and there are signs of intimate relationship between roots and mandibular canal, patient is referred to the oral surgeon and sent for CBCT investigation. Patients are informed about potential risks related to extractions and decide either or not to comply with the proposed treatment. Same oral and maxillofacial surgeon performed all the operative extractions. Radiological findings were compared against the intraoperative notes of oral surgeon.

Results: Intraoperative notes made by oral surgeon mentioned in 26 cases that the nerve was denuded, present in the alveoli, macroscopically intact.

In one case occurred transient dysesthesia of IAN.

Conclusion: CBCT provides important and exact details which influence the approach and results of surgical intervention, reducing its risk and given the good screening of patients may become a new standard of care. Using the best technology for imaging and the services of a specialist in Oral Surgery minimizes the occurrence of complications.

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THE ROLE OF VACCINATION IN PREVENTING DISEASES CAUSED BY HPV

Markus V., Kristof I., Posavec M.

Background: Given the sexually transmitted diseases risk factors young people are particularly at risk. Today the most common sexually transmitted infection is the one caused by HPV. The most effective way to prevent HPV infection, other than sexual abstinence, is vaccination.

Aim: To present a model of HPV prevention in Zagreb that is implemented by the «Dr. Andrija Štampar» Institute of Public Health, Department of School and University Medicine in collaboration with the Zagreb City Office for Health and War Veterans.

Subjects and methods: Voluntary HPV vaccination by a quadrivalent HPV vaccine is conducted in the Institute's Department of School and University Medicine since October 2007. Prior vaccination patients are informed about the vaccine, protection which is gained, usage, duration of protection, advised on ways of transmission and prevention of STI's/STD's and the need for regular gynecological examinations is also emphasized.

Results: Veterans funded free vaccination of 7th grade girls from socially disadvantaged families and children of war veterans. 49 students were vaccinated.

During school year 2008/09 the City Office for Health and War Veterans also organized free vaccinations for all students of 7th grade in Zagreb. School doctors conducted vaccination but first parents meetings were organized and the aim was education about STI's/STD's. 106 parent-teacher meetings were held and 17% female students were vaccinated.

In the school year 2009/10 this program has continued and 11% of 7th grade female students approached to free vaccination.

Conclusion: Free vaccination is one way to prevent HPV infection, but also a great opportunity for educating young people and parents about STI's/STD's and the importance of preventive examinations.

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**TOUGH FOR THE MIND,
ROUGH FOR THE BODY**

Martin M.

Background: Numbers of students suffer from anxiety that causes physical (psychosomatic) symptoms. Many of these patients are not aware of the worries and stress behind their symptoms and cannot connect them to the current life situation or the past experiences. Instead they might be seeking a medical explanation and help to their suffering.

Aim: Ability to reflect one's own physical and mental experiences is crucial in order to be able to sooth oneself and regulate the emotions and sensations of the body. Not being able to reflect leaves the person vulnerable, sensitive to the fight-flight-freeze reactions and feelings of unbound anxiety.

Patients and methods: It has been estimated that about 1/4 of the general doctor's patients have symptoms that cannot be explained by a physical illness.

Results: Concentrating on getting rid of the symptoms might strengthen the patient's fear that the symptoms are more dangerous than they actually are. It is important to reassure the patient and support him/her towards learning to live with the problems. Many of the patients benefit from a psycho-physical approach and working in a small therapy group. Short-term therapy group can serve as a learning environment for patients with psychosomatic symptoms. Getting peer support and discussing the problems in safe environment helps the group members to understand the connections between current stress, past anxieties and the symptoms. The patients often have inadequate self-regulatory abilities and in a group it is possible to get concrete practice how to soothe oneself. Working with breathing, muscle tension and body image helps to form the base for the mental function and self-reflection abilities.

Conclusion: Better self-reflection abilities often help the patient to understand the relevance of the symptoms, maybe even leading to easing or disappearance of the symptoms.

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**CONSEQUENCES OF ILLNESSES
AS THE SUBJECT OF STUDYING OF HEALTH
OF MODERN CHILDREN**

Matkivskij R.

Background: Disease of the children's population at the present stage is characterized by increase in number of sick children with a heavy chronic pathology. The clinical picture of the majority of diseases represents an interlacing of the subjective symptoms caused by disease, and displays of emotional frustration. All it leads to its gross infringements of social functioning and is adversely reflected in quality of a life.

Aim: To establish at modern schoolboys presence and level of consequences of the diseases influencing their social capacity.

Patients and methods: Special clinic-laboratory-tool and psychology-pedagogical inspection of 200 schoolboys of 12 years which have been selected by a method of casual sample of a contingent of the children's population of territorial polyclinic is executed. Consequences of illnesses defined under the International nomenclature of infringements, restrictions and social insufficiency.

Results: At 58,7% of sick children ability to live restrictions, in which structure of 37,0% – decrease in ability to daily activity were defined; 35,2% – ability decrease to run; 22,2% – decrease in ability to training; 3,7% – dialogue infringement.

Conclusion: At a considerable part of modern schoolboys of infringement of health form the limited possibilities of achievement of the socially-significant results put in purposes of the educational standard. It defines necessity of the complex decision of a problem of health on the basis of an estimation of well-being of the person of the child.

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YOUTH IN REVOLT – MARIJUANA USE AMONG HIGH SCHOOL STUDENTS

Matkovic R., Glavas J.

Background: Previous research has shown numerous problems associated with substance abuse in adolescents, including problems in schools and schools climate, socioeconomic status, parental education. It is difficult to establish or even make presumptions that school's differences have effect on substance abuse but we tried to examine this relationship.

Aim: The objective of this study is to examine whether adolescents in trades, technical and industrial schools are more likely to engage in substance abuse than those in gymnasium, as expected, and also to examine the association between knowledge of marijuana and the status of its use.

Patients and methods: A longitudinal survey was conducted on entire population of highschool students, from Sinj (Croatia). The questionnaire was confidential and self-completed. Data was gathered from 434 students in the year 2006. And 419 students in 2009.

Results: At the beginning of this survey, 6,45% of all students admitted marijuana use. At the end, number of experimentators increased up to 20,29%. There was difference in substance abuse among junior students; consumption of marijuana was greater in trade and industrial schools (39–50%) than in gymnasiums (0–10%). As seniors, considerably higher rise of marijuana use was noted in gymnasiums, it ranged from 7–30,5%. As for the knowledge of marijuana, adolescents showed better understanding of marijuana effects on the human body when older, but it seems as though this knowledge is more likely to come as the result of their own experience, rather than through education in schools.

Conclusion: For conclusion we dare to say that adolescents in «better» schools, such as gymnasiums, are at the same risk for marijuana use just as those in other highschools, contrary to the general beliefs. Most of these adolescents draw their knowledge of illicit substances from personal experience, so there is need for better adjusted substance abuse programming.

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**PUPILS' HEART'S FUNCTIONAL INDICES
AT THE MOMENT OF PHYSICAL ACTIVITY
AT JSS OF KAZAN**

Maxmutova J., Valeeva J., Stepanova N.

Background: Efficiency of schoolchildren is the main condition for the development of all major physical features, the basis of the organism's ability to resist the stress, the opportunity to realize the functional potential to intensive recovery.

Aim: To study the rate of HR as an important factor, which allows to estimate changes in functional status of the heart during exercise on a bicycle ergometer.

Patients and methods: We have examined 126 schoolchildren of 14–17 age, who attends junior school of sports in Kazan. In our study, for estimation of the functional status of the heart have been used the following methods: tetrapolar chest rheography and functional test PWC170.

Results: Contents: The results of heart rate during performance of muscular load increases adequately to the intensity of carried muscle exercises. The restoration rate in control group of adolescents to the fifth minute of recovery period is equal to the initial values. In this case, after the second part of muscle exercises recovery of the indices of heart rate of swimmers 14–15 and 16–17 years happens for the fourth minute of the recovery period.

Analyzing HR indices, we can assert that in the studied group of teenagers 14–15 and 16–17 years involved in swimming, heart rate in a «before a muscle exercises», as well as when the muscle exercise, was statistically lower than in the control groups ($p < 0,05$). Those adolescents, who swim the crawl have an indices of heart rate, which recovers earlier than those, who use the breaststroke at the age of 16–17 years ($p < 0,05$).

Conclusion: The HR of swimmers at the end of the muscle exercises mostly increases who use the breaststroke, than those who swim the crawl at the age of 16–17 years.

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THE FIRST RESULTS OF THE EFFECT STUDY OF VOORZORG

Mejdoubi J., Vancoeverden S., Struijf E., Vanleerdam F., Crijnen A., Hirasing R.

Background: «VoorZorg» is a culturally adapted translation of the Nurse Family Partnership (NFP) which was developed by prof. D. Olds in the United States to prevent child abuse. NFP proved to be effective.

Aim: To determine the effect of VoorZorg in the Netherlands as the first country outside the US.

Patients and methods: A RCT is conducted among 460 pregnant women recruited by midwives and GP's. Inclusion criteria were: age < 26 years, maximum of 28 weeks pregnancy from the first child born alive, low educational level, some knowledge of the Dutch language. Data were collected on 16–28 wks and 32 wks of pregnancy and 2 months after birth on cigarette smoking, domestic violence and pregnancy outcomes. The intervention consisted of home visits during pregnancy and after birth on several programs including reducing smoking behaviour and domestic violence. 237 women participated in the intervention group and 223 in the control group.

Results: During 32 wks of pregnancy the percentage of smokers was similar in both groups (C: 35%; I: 33%). The amount of cigarettes smoked during pregnancy was reduced in both groups (C: from 8 to 3 cigarettes and I: from 7 to 2 cigarettes a day).

Birth weight and gestational age was similar in both groups (C: 3147 g, 40 wks; I: 3144 g, 39 wks). After birth, the intervention group smoked 50% less cigarettes compared to the control group (C: 8 ± 10 ; I: $4 \pm y$ a day). Furthermore these women do not smoke near the baby (C: 2 ± 5 ; I: 0 ± 0 a day). The prevalence of domestic violence was high in both groups.

Conclusion: Smoking during pregnancy decreased in both groups. No significant difference in birth outcome was found between the control and intervention group. After birth, smoking stayed low in the intervention group in contrary to the control group and no cigarettes were smoked in the intervention group near the baby, where the control group remains to smoke near the baby. Domestic violence is a common problem in this population.

151 THE LONGITUDINAL STUDY OF CLIENT SATISFACTION WITH MENTAL HEALTH SERVICES AT THE FINNISH STUDENT HEALTH SERVICE (FSHS)

Meronen M.

Background: The measurement of the client satisfaction has been widely used in different health care organisations. In the FSHS there is a long tradition to measure client satisfaction with the services by the self developed questionnaire. However, no attention has been paid to the special characteristics of mental health services in this general questionnaire.

In the FSHS there is a long tradition to measure client satisfaction with the services by the self developed questionnaire. However, no attention has been paid to the special characteristics of mental health services in this general questionnaire.

Aim: The purpose of this study was to examine students' experiences of their treatment in the mental health services.

Patients and methods: The study population consisted of university students from 10 health centers of Finland.

The method used in this study was a questionnaire developed especially for this purpose. The questionnaire was distributed to every student visiting the mental health personnel during the data collection time. The assessments were made in May 2003, 2005, 2007 and 2009.

Results: In all four studies major part of the students expressed high satisfaction with the mental health services they had received. The average satisfaction measured in different satisfaction indicators varied between 3.8–4.3 (in a scale from 1 to 5), but the percentages of most satisfied students have decreased from 2003 to 2009. The results revealed six subgroups which were differently related to client satisfaction. It was also found that those students who had a regular treatment (usually psychotherapy) were more satisfied with mental health services. Especially those women, who were older and had a regular treatment, were satisfied with their treatment.

Conclusion: It is important to take into consideration the significance of regular treatments when assessing and developing the mental health care of university students.

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**EUTEACH: AN EFFECTIVE PROGRAM
TO IMPROVE TEACHING AND TRAINING
OF ADOLESCENT HEALTH PROFESSIONALS**

Michaud P., Suris J., Stronski S., Vartanova K.

Background: according to mortality data, the health of adolescents in Europe is not improving at the same pace as the one of other segments of the population, and in several Eastern European countries, it is in fact worsening.

Aim: The Euteach program aims to set quality standards for training in adolescent health care, public health, advocacy and policy making as applied to adolescents. It also attempts to strengthen the link between professionals of different countries working in the field.

Patients and methods: ten years ago, a group of around 14 health professionals from all parts of Europe have set up the Euteach website (www.euteach.com) which provides free of charge training modules and background teaching materials covering a wide range of topics related to adolescent health and medicine such as clinical care (including the issue of adolescent friendly health services), school health/public health, advocacy and ethics. Euteach organizes each year a one-week summer school, taking place at Lausanne University, Switzerland.

Results: each year, the website is visited by 3000–4000 users who have direct access to teaching material and information. Over the last ten years, around 400 health professionals from multiple countries and backgrounds have attended the Euteach summer school, run in English, with excellent feedback. The Euteach network is growing and currently collaborating with around 30 experts from Europe and from the rest of the world. It has established close relationship with the World Health Organization and UNICEF. Since several years, it has an ongoing collaboration with the University of St-Petersburg who has developed its own Russian speaking Euteach summer school. It also organizes half-day or whole day workshops during various scientific meetings (EUSUHM, IAAH, EUPHA).

Conclusion: Euteach represents a useful, recognized teaching tool for health professionals who want to improve their teaching and training knowledge's and skills in adolescent medicine and health.

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COMPARISON OF BODY MASS INDEX WITH PHYSICAL ACTIVITY AND EATING HABITS IN THE STUDENT POPULATION

Miletic L., Posavec M., Juhovicmarkus V.

Background: The high prevalence of obesity in modern societies is one of the major public health problems. Excessive energy intake and physical inactivity are believed to be the main factors that effect obesity.

Aim: The aim of this research work is to compare the body mass index with physical activity and eating habits in the student population.

Patients and methods: A total of 8953 first-year students of the University of Zagreb, median age 19, (Male 41%, Female 59%) were examined in student health clinics in the academic year 07/08. Students fulfilled questionnaire about personal and family medical history; eating habits; physical activity, and physical examination including anthropological measurments was performed.

Results: After data processing the following results were obtained; 50% of students live with their parents while the rest of them live in dormitorys or as tenants. Every day 53% of students have breakfast while less than half of them (45%) have a cooked meal every day. Every other student (53%) is actively engaged in sports (1–5 hours per week). Increased BMI was found in 1/4 of respondents; 21% of students were overweight (BMI 25–29.99) and 4% were obese (BMI \geq 30). Almost half of students (45%) with BMI 25 and higher are not engaged in active sports. In evaluating eating habits of overweight and obese it was observed that less than a half of them (45%) eat breakfast every day and 40% of them have a cooked meal every day.

Conclusion: Systematic examinations of first year students are an important preventive measure in the detection of overweight and obesity within the young population and they allow early involvement in counseling and further treatment.

Given the obesity epidemic in our country and in the world, school medicine physicians have an important place in primary and secondary prevention.

154 PHYSICAL DEVELOPMENT OF CHILDREN ACCORDING TO DIFFERENT SOCIAL CONDITIONS

Milushkina O.

Background: Study of the younger generation health status is one of the key health issues of children and adolescents.

Aim: Physical development is one of the important indicators of health and dependent on living conditions, upbringing and education of children.

Patients and methods: Investigation of physical development was carried out during the in-depth medical examinations of children in orphanages and families.

Results: Lag of biological age by the real age (slow pace of biological maturation) were twice as likely ($p < 0,05$) in boys than in girls without parental care, while these differences are insignificant among their peers from ordinary families. Among boys, orphaned children was significantly greater with the slowing of biological maturation than boys from traditional families ($p < 0,05$). Children with an accelerated pace of biological maturation of orphans did not occur, while among their peers from families, 14,3% of boys are outran chronological age.

Normal physical development of orphans found in 76,9% of boys and 80,0% of girls. Among the children of ordinary families, the figure is 90,5% and 84,4% respectively. Deviations in physical development through lack of body weight were significantly more common among orphans, but at the overweight – among children of ordinary families.

Unlike the children of ordinary families, total delay of physical development diagnosed in 11,5% of boys and 8,0% of girls brought up in orphanages.

Less than average physical performance (muscle strength of hands and vital capacity of lungs) of orphaned children revealed in 84,7% of boys and 85,0% of girls. Among the children of ordinary families averages functional parameters established in 76,2% of boys and 90,6% of girls, and only 23,8% of boys and 9,4% of girls are below the average.

Conclusion: The results indicate significant differences between the indicators of physical development of children from orphanages and children of ordinary families.

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ASSOCIATED CO MORBIDITIES IN STUDENTS WITH ALLERGIC RHINITIS

Mimi K., Goce K., Deska D., Cveta K., Vera M.

Background: Many studies elaborated that allergens are related to the appearance of the symptoms for rhinitis, asthma, dermatitis in atopic persons and they are the main trigger for asthma in children.

Aim: Connection of allergic rhinitis with asthma and investigation of impact of allergic rhinitis of quality of life in students.

Patients and methods: Were analyzed 752 school children 7–25 ages. The case of clinically and immunologic confirmed rhinitis, asthma and dermatitis were taken into consideration. The majority of them had symptoms of asthma.

Results: In our study connection of allergic rhinitis with asthma is evident. At the 61,8% of examinees with allergic rhinitis was found and confirmed asthma. Rhinitis proceeded at asthma in 43,8% in 18% it appeared simultaneously with asthma. The greatest frequency was in early adolescence. Atopic dermatitis was found in 21% of the investigated. At the most frequent allergens were determined dermatophagoides pteronyssimus, grass pollen, cosmetics, linden, insect prick, poplar, horse chestnuts. Allergic rhinitis can have substantial negative impact on students' assessment. Most notably, it can impede learning during the school-age years. Other consequences include adverse behavioral and psychosocial effects, poor quality of life.

Conclusion: Allergic rhinitis is a common causal factor of co morbidities, such as asthma and sinusitis. It could be concluded that atopic rhinitis have a central part in development asthma. Early diagnosis is of a great importance due to tamely undertaking of preventive measures and adequate treatment to control and prevent the further development of atopy. Nasal obstruction, the most prominent symptom, is associated with sleep disorders, which can have a profound effect on learning abilities, behavior and attention. Allergic rhinitis a chronic condition that affects students is often under diagnosed or inadequately treated. Allergic rhinitis limits the quality of life in students.

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**THE EFFECT OF GIRLS-STUDENTS'
DIETARY HABITS ON THE FORMATION
OF FEMALE BODY SPECIFIC FUNCTIONS**

Mingazova E.

Background: The problem of complex study of the reproductive health peculiarities of the girls-adolescents studying in different general educational institutions, the factors for development of approaches to an adequate correction of unfavorable trends continues to be relevant in the period of general and primary vocational education modernization.

Aim: Scientific rationale of the organizational fundamentals of the medical and social services for protection of the reproductive health of the girls-adolescents studying in different educational institutions and prevention of the unfavorable effect of social-hygienic, medicobiological, behavioral and other factors on the process of the female body formation.

Subjects and methods: Social-hygienic, analytical, graphic-analytical, statistical, hygienic, sociological methods were applied in the work. 1167 girls-adolescents were under the observation including 353 students of school, 375 students of high (grammar) school, 439 students of the institutions of primary vocational education

Results: The distinctive feature of modern girls-adolescents' lifestyle and behavior is that «modern» tendencies to weight loss, spread of a «top model» cult have obtained a wide circulation in their environment. Subservience to fashion results in their chronic undernutrition: fasting days, diets, starvation, colonic washing, use of fat «reducers» and «absorbers». There are 4,3% of such «women of fashion» among the students of the institutions of primary vocational education, 15,4% – in schools, 23,2% – in high (grammar) schools, which is definitely higher ($p < 0,05$)

Conclusion: Low awareness level in the issues of nutrition hygiene, financial insecurity of the girls themselves (these attitudes are as a rule concealed from parents) prevent from compensating the diet for additional sufficient quantities of fruit, vegetables, taking vitamin supplements. It is natural for the chronic shortage of the main nutrilites to contribute to the onset of the girls-adolescents' developmental and health status disorders.

157

PROBLEMS OF THE INFANTS' BREAST FEEDING OF THE WORKING WOMEN

Mingazova E., Gainutdinova L.

Background: The problem of early ab lactation is the main problem of pediatrics at present, and the issues of the infants' breast feeding peculiarities among working women are of great social significance. It is necessary to develop a system of measures on the management of the factors complex and analysis of the main causes of early ab lactation of infants among the given cohort of women. The municipal health service level should be the fundamental unit of this monitoring system.

Aim: To study the causes of refusal and early ab lactation of infants among women- workers of the production and public spheres, to determine the effect of social-hygienic, medical-biological, medical-organizational and other factors on the duration of breast feeding.

Subjects and methods: 677 women of fertile age bringing up infants aged 0–3 years old. Study of the infants feeding peculiarities in two experimental groups: the index group – 394 families, mothers being the workers of the production enterprise; the control group – 283 families, mothers being the employees of the public sector.

Results: The duration and the prevalence of breast feeding in both groups in the first 3 months of life is the same. The number of infants breast-fed up to 9–12 months in the second group was 1.5 times as high as in the first group. Only a small quantity of mothers in the first group ($4.9 \pm 1.26\%$) and in the second group ($6.5 \pm 1.23\%$) continued to feed an infant after one year old as well. $1.4 \pm 0.45\%$ of women didn't plan breast feeding before baby's birth. The factors having effect on the duration of the infants' breast feeding with consideration of the mother's professional occupation sphere were identified.

Conclusion: We recommend applying high-technology capabilities of the information – technology module of the «Vitacard» (Vitacarta) Production Enterprise, by means of which a common medical-social database of the children population in the city of Kazan was created, for successful advance of the breast feeding monitoring program.

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**ON IMPROVEMENT OF THE DIGESTIVE
SYSTEM DISEASES PREVENTION
AMONG ADOLESCENT-SCHOOLCHILDREN**

Mingazova E., Imamov L.

Background: The issues of the younger generation health protection are the most important in the human value system. One of the most common laid in adolescence forms of functional disturbances is the pathology of the digestive system.

Aim: to launch a program for prevention of this type of pathologies for adolescent population on the basis of study of medicobiological, social-hygienic, behavioral factors effect on the incidence of the digestive system diseases among adolescent – schoolchildren.

Patients and methods: According to the set tasks social-hygienic, clinical-instrumental, analytical, statistical and other research methods were applied in the work. The actual nutrition of 423 adolescents aged 15–17 was assessed by the method of 24-hours diet reproduction.

Results: The analysis based on the official statistics data of the Republic of Tatarstan showed that the morbidity rate of the 15–17-year old adolescents increased from 882,13% in 2000 to 1385,8% in 2008. The absolute growth reached 503,67%, i. e., the morbidity rate of adolescents over the period of 9 years increased by 57,1%. As far as the diseases of the endocrine system, eating disorders and metabolic disturbances are concerned, the rate increased by 49,8% (from 19,06 to 28,51%, respectively), in the group of the digestive system diseases it increased by 44,2% (from 38,7 to 55,82%, respectively).

Conclusion: Optimization of the primary prevention of the digestive system diseases among this cohort is possible only on the basis of complex assessment of the medicobiological, social-hygienic, behavioral and other factors effect on the adolescents' «digestive status», both on the personalized and group levels.

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PECULIARITIES OF EATING BEHAVIOUR OF SCHOOLCHILDREN WITH VISUAL IMPAIRMENT

Mingazova E., Shiller S.

Background: It features the prevention of so-called school diseases, visual impairment belonging to the government measures system for maintenance and promotion of the rising generation health. The relevance of preventive measures elaboration of this direction is caused by high incidence of eye disorders among modern schoolchildren and risk factors in their life (excessive visual load, improper nutrition, etc.).

Aim: to improve the program of ophthalmological diseases prevention among schoolchildren on the basis of complex medical and social investigation of eye disorders incidence and analysis of the factors forming them.

Patients and methods: Modern functional and electrophysiological diagnosis of the visual organ in 355 students of a general education school – high (grammar) school was made subject to the aim of research. To obtain information about the state of actual nutrition, a frequency method based on the record of foodstuffs and meals frequency per month on the list including 67 items with evaluation of the consumption volume was applied (Martinchik A.N., 2005).

Results: As the analysis results have shown, only 50,99% of 355 students (aged 7–17) were identified as ophthalmologically healthy. It is natural that most of them were the schoolchildren of 1–2 grades (66,67%), and the smallest part was among the students of the 10th and 11th grades (25,97%), ($p < 0,05$). The group with low degree myopia – 118 persons (33,34%) was the most numerous of the groups with ophthalmological pathology: 15,50% among the junior schoolchildren, 40,93% among the intermediate (5–6 grades) and 48,05% among the senior high school students.

Conclusion: The senior high school students are in greater need of the eating behavior correction, the educational programs for rational nutrition and vision maintenance; however the work in this direction should be organized from the very beginning of schooling.

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PREVENTION OF GASTROINTESTINAL
TRACT DISEASES AMONG THE STUDENTS
OF THE INSTITUTIONS OF PRIMARY
VOCATIONAL EDUCATION

Mingazova E., Titova S.

Background: According to the data of official medical statistics unfavorable trends in the adolescents' state of health continue to be observed in the Republic of Tatarstan. Malnutrition is known to be the major factor of health deterioration, it being primarily confirmed by the morbidity rate increase of the gastrointestinal tract pathologies. In the Republic of Tatarstan, during the period of 2003–2008 the above mentioned rate increased from 5212.0 to 5295.5 per 100 000 adolescents.

Aim: study of prevalence of the gastrointestinal tract pathology among adolescent students of the institutions of primary vocational education.

Patients and methods: The investigation was carried out among 532 youths – the students of the institutions of primary vocational education aged 17–18 years old. Clinical, social-hygienic and other methods of examination were applied.

Results: It was revealed that every other youth complained of the gastrointestinal tract disorders (50,37% of respondents). The in-depth clinical trial showed the gastrointestinal tract diseases in 6,67% of adolescents. The fact of availability of a considerable number of children from at-risk families, as well as families with low and very low level of material support (63,7% of the number of adolescents with the gastrointestinal tract pathology) draws one's attention.

Conclusion: Thus, a program of preventive control including the issues of improper nutrition and food consumption culture with account of social-hygienic, hygienic and other factors of the youths-students' life must be launched.

161 VERTEBRAL — NEUROLOGICAL DISORDERS IN ADOLESCENT STUDENTS AND PROGNOSTIC RISK ASSESSMENT MATRIX

Mingazova E., Usupova M.

Background: The most common of the functional disturbances among adolescents are deviations in the musculoskeletal and the nervous systems. Faults in posture and other functional disturbances of the vertebral column are considered to be «precursors» of the vertebrogenous diseases of the nervous system.

Aim: To determine the incidence of the vertebral-neurological disorders among adolescents and to assess the effect of different social, medicobiological, hygienic, behavioral and other factors.

Subjects and methods: 340 adolescent students of general education institutions at the age of 14–17. Classical neurological, vertebral-neurological, social-hygienic, hygienic and other methods.

Results: Incidence of the vertebral-neurological disorders among the boys aged 14 was $7,89 \pm 2,50$ per 100 examined in the group, aged 17– $47,37 \pm 3,35$; among the girls it was $28,00 \pm 4,19$ and $33,33 \pm 1,57$, respectively. Only 40% of all examined adolescents have a normal posture. The vertebral-neurological disorders among them are definitely observed more frequently: $16,7 \pm 3,83$ versus $35,64 \pm 5,42$ ($P < 0,05$). Among the adolescents with scoliosis and posture instability, the highest incidence of the muscular tonic syndrome (up to 36,4%), the neuromyodystrophic syndrome (up to 27,27%) and of the trigger type local muscular indurations (up to 54,55%); of the functional blocks in all parts of the spine: in the cervical part — in 88,44% of the adolescents of the given group, in the sacral part — in 52,56% is identified. 23 most significant factors definitely associated with formation of the vertebral-neurological disorders among adolescents were distinguished.

Conclusion: A prognostic risk assessment matrix of the vertebral-neurological disorders formation in adolescents based on determination of the sum of all prognostic coefficients of the appropriate factors' gradation is developed. Its implementation provides the basis for measures on early diagnosis, timely correction and prevention of the spondylogenic disorders in adolescents.

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UNIVERSITY MEDICINE AND STUDENTS' HEALTH IN RUSSIA

Minnibaev T.

Background: University health services differ in structure, technical equipment and staff.

Aim: Organization of health services for university lecturers, students and graduate students research.

Patients and methods: University lecturers and students are provided with free state health services. Autonomous health services (university medicine) operate along with the state ones. Polyclinics for the students and ambulances are attached to universities and campuses. In some cities university medicine is presented by a single health center that provides services to all the universities in the city, while each campus has its own health post.

Results: In the First Moscow State Medical Institution n. a. I. M. Sechenov health services for the students are provided by a special department of a large well-equipped medical centre. Students attend medical examination annually; they are examined by a physician, an orthopedic surgeon, a neurologist, a dentist, an E.N.T. specialist, a gynecologist and an ophthalmologist. The following tests and procedures are conducted: fluorography, ECG, clinical blood analysis, hepatitis B and C markers, RW, HIV, bacteriological feces analysis, immunoprophylaxis (measles, roetheln, hepatitis B, Td). Additional diagnostics are held in the university clinics, where all the high-technology methods are available.

Conclusion: According the results of this medical examination individual health appraisal is constructed, groups for dispensary observation are formed and students are arranged into 3 physical education groups (general, preparative and medical). About 400 students (20%) are registered in the dispensary. The majority has respiratory and visual organs diseases, cardiovascular and nervous system diseases or with urinogenital diseases. This group of students is hold under relevant doctors' permanent control. The health-improving activities are conducted on the base of university sport centers (stadium Burevestnik, sport halls, health camp Sechenovets at the Black Sea).

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HYGIENIC PROBLEMS OF SENIOR HIGH SCHOOL STUDENTS

Minnibaev T., Timoshenko K., Minnibaeva N.

Background: High school students experience an increase of the academic load and a decrease of the health indicators.

Aim: A study of the lifestyle and fatigability of senior high school students in profession-oriented schools.

Patients and methods: 700 school children of 10–11 forms (two last years of secondary school) in profession-oriented classes were investigated using psychophysiological tests, sociologic questionnaires (4 blocks: general questions, lifestyle, health, profession) and direct attendance to detect the basics of future profession choice, academic load, time budget structure and the attitude towards own health.

Results: University entrants choose their future profession and the specific university basing on primary career guidance. Career guidance basics are formed according to the information that a child receives from the school curriculum, parents, friends, relatives, who work in the industry, media, general tendency of priority development («I want to be an astronaut, a doctor, a lawyer,...»). As students are accepted to the universities on the competitive basis, education in high school becomes far more intensive. In profession-oriented classes studying process is coordinated with university curriculum. Time spent on all types of study activities sums up to an average of 10 hrs a day with personal fluctuations from 8 to 13 hrs a day for different weekdays.

Conclusion: Fatigue commutation was not observed. Psychophysiological condition, as well as somatic and psychic indicators did not decrease. 92% of students showed hurdle profession motivation and abidance by major principles of healthy lifestyle.

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THE CHARACTERISTIC OF CARDIO RHYTHM AND SMALL ANOMALIES OF HEART IN ADOLESCENTS

Mironova O., Galaktionova M.

Background: At the present time the first place in the structure of cardiovascular diseases in children belongs to functional cardiopathy. In the majority of children cardio rhythm disturbances are proceeding on the background of conjunctive tissue dysplasia in different stages.

Aim: To study the structure of cardiac arrhythmias and heart small anomalies in adolescents.

Patients and methods: Complex clinical instrumental examination was carried out for 406 children in ages from 12 to 16 in Krasnoyarsk. Doppler echocardiography was performed with the equipment «Aloka-340» according to common technique. Daily ECG registration was produced with cardio registration device «Medicom IN-20» in two modified allocations.

Results: We diagnosed the signs of vegetative dysfunction syndrome in all the children. In 55,91% children we revealed large per cent of stigmatization reflected in the presence of gothic palate, flat foot, hypermobility of joints, anomalies of floors of the auricle, epicanthus, eye hypertelorism, «coffee colour» spots.

More often children's complains showed astenic vegetative character. As preliminary signs of vegetative crisis the children marked the feeling of discomfort, weakness in legs and feet, nausea, yawning, vertigo, fear. 45,26% of all the children had sharp aches in the heart area. The aches were short, passed away by themselves or were eliminated by the usage of sedative preparations. Children of prepubertal period had more complain. Syncope states took place in 15,64% children. The results of echocardiography showed the presence of additional chords in 134 children, in 199 – prolapse of mitral or tricuspid valve, at the same time mitral regurgitation of the 1–2 stages took place in 1/3 of the children. The analysis of cardio rhythm monitoring showed in 47 children ventricular, in 33 – supraventricular extrasystole, in 49 – sinus tachycardia.

Conclusion: Our study showed that heart small anomalies are structural-functional risk factors in the development of cardio rhythm disturbances in children.

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THE FIT FOR SCHOOL ACTION FRAMEWORK — INNOVATION FOR SCHOOL HEALTH

Monse B., Benzian H.

Background: There are many policy frameworks and international guidelines for school health programmes, yet the potential of schools as healthy places is often overlooked. Many countries have national plans and objectives for school health, but there is a lack of large-scale implementation.

Aim: Building on the experience of the WHO-awarded national flagship school health programme of the Philippines, the Fit for School Program (FFS), and the paper analyzes key elements of successful school health programs in general and gives 10 policy recommendations that are relevant for programs in any given setting.

Patients and methods: Analysis of available material and publications related to the FFS Program concept, activities and achievements. Qualitative interviews with key stakeholders.

Results: The study revealed that the success of the FFS Program was based on a number of key factors which could be grouped into ten areas, addressing both the conceptual and the process level:

1. Building on established international policy frameworks
2. Civil society involvement
3. Program relevance
4. Evidence & simplicity of interventions
5. Creating functioning intersectoral collaboration
6. Contribution to broad development agenda
7. Capitalizing indirect effects
8. Including monitoring & evaluation
9. Stewardship & technical assistance
10. Political leadership & appropriate campaigning

Conclusion: Responsibilities for school health are often split divided between health and education sectors but intersectoral collaboration is key for school health. The school as venue for health interventions is ideally suited to reach children in a receptive age, to initiate sustained behavior change and to address determinants of health such as water and sanitation through involvement of communities and parents. With evidence-based interventions, tackling high-impact diseases, programs can make a significant contribution to achieving the health-related MDGs. The ten recommendations outline a roadmap to initiate or revitalise school health programs.

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EFFICIENCY OF HEALTH MEASURES
IN CHILDREN PRESCHOOL INSTITUTIONS
OF NENETSKIY AUTONOMOUS
NATIONAL AREA

Muratova A., Degteva G., Korneeva J.

Background: Environmental factors significantly influence on health state of children in preschool institutions (CPSI). Children need effective preventive measures in conditions of the Far North where the children morbidity is the highest in Russia.

Aim: To study the efficiency of preventive measures in CPSI of Naryan-Mar.

Patients and methods: The efficiency of special health measures is studied by multifactor dispersion analysis. The healthful methods were as independent variables and general morbidity of 1100 children in CPSI of Naryan-Mar was as a dependent variable during the period from 2002 till 2008.

Results: The multifactor dispersion analysis of the influence of several factors (independent variables) on the morbidity (dependent variables) showed the decrease of the general morbidity of children ($p < 0,05$; $p < 0,01$) participated in health measures.

The independent variables were the following special healthful methods: consumption of amino acids – glycine and glutaminic acid; natural extracts; adaptogenes; vitamin complexes as well as total and dotted massage, ultraviolet irradiation; ionotherapy; chill procedures – dry rubbing down. The dependent variable was general morbidity of children during the investigated period. Statistically significant results were obtained by the use of such factors as adaptogenes ($p < 0,05$), natural extracts from vegetables and fruit ($p < 0,05$) and vitamins ($p < 0,01$).

The complex study of children in CPSI allowed to produce a data base in the pocket SPSS for 54 objects with the separation of 37 signs. The statistical analysis of the findings (comparison of samples on the level of the investigated sign, analysis of contingency tables and dispersion analysis) showed the largest preventive advisability among vitamin-mineral complexes (VMC).

Conclusion: Preventive measures on the base of CPSI with the use of correction of nutrition contribute to the decrease of the general morbidity of children ($p < 0,05$).

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**ABOUT VARIED ASPECTS OF THE COMPLEXED
WORK OF THE CENTRE OF STUDENT'S
HEALTH IN STAVROPOL ON THE CAUCASUS**

Muravieva V., Frantceva V.

Background: Youth's health is the indicator of social felicity and base of successful development in future. The great role in it depends on forming in Russia Centers of youth's health.

Aim: Experience analysis of Center of Student's Health (CSH) one year activity, organized at Stavropol State Medical Academy.

Patients and methods: It is analyzed more than thousand cards for express-estimate the health resorts of students of first, fourth and sixth course from tree faculties. There are 254 circumstances among them in dynamic to risk groups. Results of analysis elaborated by packet program STATISTICA version 6.

Results: Among first course students there are complaints on cardio-vascular system. At sixth course students dominates problems of nervous, mental sphere, manifested by high irritability, tiredness, low tolerance of emotional exertion, etc. Indicated problems are character for half of students. In general, detection the problems of all organs and systems during six years education have tendency of growth. Results of screening estimate the first course student's demand form the risk groups of locomotor apparatus, gastro-intestinal, cardio-vascular, nervous system. In many occasions indicated problems put conditions to constitutional, hereditary factors, as dysplasia of connective tissue (DCT) or early metabolic syndrome. There is detected high presentation focal otolaryngological infectious at the DCT. Correction of threat profile is impossible limit only by individual preventive consulting, it is necessary complex of agitation in combination with pedagogical, educational means Students take part in programs «Stop, hypertension!», «Our life without drugs» and others.

Conclusion: It is necessary the complexed approach with health preserving, educational, pedagogical, agitation technologies for effective form the healthy way of life in the student's contingent.

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THE SPECIFICITIES OF EXAMINATION AND FOLLOW-UP OF THE HEALTH OF CHILDREN FROM LARGE FAMILIES

**Namazova-Baranova L., Morozova N., Gevorkyan A.,
Mitina N., Perederiy E.**

Background: Large families with 3 or more children in Russia comprise 6,8% of the total number of families with children. In Moscow less than 2%. It has been found that children from these families are less likely to get care, due to the imperfect organization of medical aid to such families in clinics in the community.

Aim: To determine the level of physical health of children from large families with subsequent treatment and control of this state. Organization of medical aid to these families.

Patients and methods: 409 children from 155 large families aged from 1 to 17 years have been examined and followed-up within 3 years. 67% of households had 4 or more children. The best option; was chosen; at weekends all the experts setup specific hour's reception and examination of all children at once.

Results: We have observed the low level of follow-up of children in the community, late admission in case of illness, self-treatment. In 23% of the observed there was lack of weight, retarded growth. In the structure of morbidity – pathology of musculoskeletal system 95%, somatic diseases 89%, neurological diseases 84%. The tendency of combined pathologies increased with age in mixed forms, the most dramatic rise and spread of chronic disease at the age of 7–11 years and 14–17 years. For children the consultations of psychologists were held. Individual psychological and correctional programs with recommendations on improving the quality of family life were designed.

Conclusion: To preserve and promote the health of children from large families, it is necessary to establish comprehensive programs to diagnose their health state. Thorough survey should be conducted under a special plan: optimal schedule of consultations, involving a wider range of different specialists and research methods. Medical examination of children from large families also requires participation of specially trained professional psychologists to work at individual family programs of social and psychological adaptation and correction.

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THE ROLE OF PREVENTIVE MEDICAL EXAMINATION IN THE EARLY DIAGNOSIS OF ENDOCRINE DISORDERS

Namazova-Baranova L., Resnenko A., Morozova N., Shirokova I.

Background: A considerable increase of endocrine disorders was observed among children within last years. Often patients with endocrine disorders do not show any symptoms of disease at early stages, and this can lead to late diagnosis and make therapy more complicated and routine medical check-up does not include examination by endocrinologist.

Aim: To evaluate prevalence of endocrine disorders in pediatric population and the efficiency of routine check-ups, 911 schoolers were examined.

Patients and methods: Children were split into groups by sex (sex ratio 54% male to 46% female) and age (junior school – 6–11 years, middle school 11–14 years, senior school – 14–17 years). Physical examination, anthropometry, and thyroid ultrasound examination were conducted. Body mass index, height and height velocity with standard deviation score were estimated.

Results: 12% of children had signs of endocrine disorders. The leading position in the list of disorders belongs to overweight and obesity – 61% of all endocrine disorders. 25% of children with endocrine disorders had thyroid gland enlargement, 9% growth abnormalities, 5% had sexual development abnormalities. 9% of children with detected endocrine disorders had two or more diagnosis. Overweight and obesity were more common for middle and senior school groups without significant differences between sexes (sex ratio 51% male to 49% female). Thyroid abnormalities dominated at the age of 11–17 and more common for female population (sex ratio 13% male to 87% female). Growth abnormalities were more common for age group 7–14 years with sex ratio 82% male to 18% female. Impaired puberty dominated at the age of 11–17 years with sex ratio 5% male to 95% females.

Conclusion: Our results demonstrate the importance of regular endocrine function assessment of school-age children. This helps to reveal possible endocrine disorders at early stages and form groups of children with high risk of endocrine disorders for preventive medical examination.

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**SPACE TECHNOLOGIES IN MEDICAL
AND SOCIAL REHABILITATION
FOR SCHOOLCHILDREN
WITH THE CONSEQUENCES
OF CRANIOCEREBRAL TRAUMA**

Nemkova S., Maslova O.

Background: Craniocerebral trauma (CCT) is one of the urgent problems of contemporary pediatrics due to its frequent occurrence and severity of disability that set out the need for search of new high performance methods of rehabilitation, one of which is a method of dynamic proprioceptive correction (MDPC) using space suits «Penguin» and «Adeli».

Aim: The aim of our work was to develop and evaluate the system of comprehensive medical, psychological and social rehabilitation using MDPC for schoolchildren with the consequences of CCT in the long-term period.

Patients and methods: Examined 297 children and adolescents (of which 32 patients – after light CCT, 131 – after the trauma of moderate severity and 134 – after severe CCT) using clinical neurologic, computed stabilographical, biomechanical and psychometrical methods before and after rehabilitation course using MDPC as well as a course of conventional treatment.

Results: Comprehensive medical, psychological and social rehabilitation using MDPK, which we have developed, is more efficient comparing with methods of conventional treatment and in contributes in restoration of motor and cognitive functions in 95% of patients with consequences of light CCT, in 82% of patients after CCT of moderate severity and 54% of patients after severe CCT as well as in enhancement of social adaptation with restoration of ability of self-care in 67% of patients after CCT of moderate severity and 63% – after severe trauma, ability to study – in 83% and 72% of children, respectively and verbal function in 56% and 45% of children.

Conclusion: Comprehensive medical, psychological and social rehabilitation using MDPK, which we have developed, is more efficient comparing with methods of conventional treatment.

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THE USE OF SPACE TECHNOLOGIES
IN MEDICAL, PSYCHOLOGICAL
AND SOCIAL REHABILITATION
FOR SCHOOLCHILDREN WITH
THE CONSEQUENCES
OF CRANIOCEREBRAL TRAUMA

Nemkova S., Maslova O.

Background: Craniocerebral trauma (CCT) is one of the urgent problems of contemporary pediatrics due to its frequent occurrence and severity of disability that set out the need for search of new high performance methods of rehabilitation, one of which is a method of dynamic proprioceptive correction (MDPC) using space suits «Penguin» and «Adeli».

Aim: The aim of our work was to develop and evaluate the system of comprehensive medical, psychological and social rehabilitation using MDPK for schoolchildren with the consequences of CCT in the long-term period.

Patients and methods: We examined 297 children and adolescents (of which 32 patients – after slight CCT, 131 – after the trauma of moderate severity and 134 – after severe CCT) using clinical neurologic, computed stabilographical, biomechanical and psychometrical methods before and after rehabilitation course using MDPC as well as a course of conventional treatment.

Results: Comprehensive medical, psychological and social rehabilitation using MDPK, which we have developed, is more efficient comparing with methods of conventional treatment and in contributes in restoration of motor and cognitive functions in 95% of patients with consequences of slight CCT, in 82% of patients after CCT of moderate severity and 54% of patients after severe CCT as well as in enhancement of social adaptation with restoration of ability of self-care in 67% of patients after CCT of moderate severity and 63% – after severe trauma, ability to study – in 83% and 72% of children, respectively, as well as verbal function in 56% and 45% of children.

Conclusion: Method of dynamic proprioceptive correction is highly effective in medical, psychological and social rehabilitation of children with craniocerebral trauma.

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PHYSICAL PREPAREDNESS OF CHILDREN BEFORE SCHOOL ENTRY

Nikitina M.

Background: Physical preparedness (PP) of children reflects the functional possibilities of their body taking into account the development of physical qualities. During the preparedness of children for school the level of the development of psycho-physiological school significant functions and the level of the development of physical qualities have an important meaning. They allow them easier to adapt to school process and long-term static loads.

Aim: To define the PP level of children before school entry and compare with data in children of 90s of last century.

Subjects and methods: During the testing of 60 boys and 65 girls aged 7 years we determined the meanings of 4 tests on assessment of speed (running speed on 10 m and 30 m), speed-power and coordination (jump length from the place and the throw of packing ball) qualities.

Results: The study of modern children and their counterparts of early 90s of the XX century showed that the range of changes in meanings of running speed on 10 m in boys was 2,4–1,8 s and 2,3–1,7 s respectively, in girls – 2,6–2,0 s and 2,6–1,9 s, respectively; running speed on 30 m – in boys – 7,7–6,5 c and 7,0–6,0 s, in girls – 8,3–7,1 s and 8,3–6,3 s; jump length from the place – in boys – 106–134 cm and 112–140 cm, in girls – 96–123 cm and 97–129 cm; the throw of packing ball – in boys – 260–355 cm and 270–400 cm, in girls – 230–310 cm and 220–350 cm. The comparison of the findings shows the decrease of absolute values as well as the range of changes of indicators of PP in modern children. It witnesses the decrease of functional reserves of the children's body.

Conclusion: The differences in meanings of PP level in children before school entry define the need of modernization in the content, forms and means of physical education of modern preschool children in nursery schools.

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**INDICATIONS AND EFFECTIVENESS
OF OCCLUSAL SPLINT THERAPY AMONG
UNIVERSITY STUDENTS IN TAMPERE**

Nuutinen M., Pontys K., Tipuri M., Vuorinen A.

Background: Temporomandibular disorders (TMD) are one of the most frequent reason to facial and head region pain. University students belong to age group where incidence of TMD is relatively high. About 10% of university students have different kinds of TMD symptoms, for example pain in temporomandibular muscles and/or joint and bruxism. TMD symptoms are strongly related to stress. According to Finnish Current Care Summary (2007) occlusal splint therapy is an effective treatment for TMD. Occlusal splint is the most common and usually primary treatment for TMD.

Aim: The aim of this study was to determine the indications of occlusal splint therapy. We also wanted to know the effectiveness of the treatment.

Patients and methods: The target of this study was occlusal splint treatments in the year of 2008 among patients of Finnish Student Health Service in Tampere. There were 79 patients, 70 female and 9 male. Patients were between 21 and 52 years of age. The average age was 26.8. In this study the indications were categorized in five groups: 1) bruxism, 2) masticatory muscle related symptoms, 3) jaw joint related symptoms, 4) orthodontic reasons and 5) other reasons. We sent to the patients a questionnaire to inquire the effectiveness of the splint.

Results: The TMD symptoms were distinctively more frequent among female than male. The need for occlusal splint treatments was highest in the autumn and in the late spring – during the beginning of the studies, examinations and graduations, when the stress level of students is the highest. The splint therapy was most beneficial to the patients who suffered from bruxism or muscular pain.

Conclusion: Most of the patients experienced occlusal splint treatment effective. Pain and functional disorders clearly reduced and the quality of sleep improved. Occlusal splint therapy is effective, economical and non-invasive treatment for TMD.

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**TRENDS IN FUNCTIONAL STATE
OF THE CARDIOVASCULAR SYSTEM
AND PSYCHOMOTORIC PARAMETERS
IN TEACHERS OF MOSCOW CITY
(10-YEAR MONITORING DATA)**

**Pankova N., Afanaseva E., Arkhipova E., Bogdanova E.,
Lebedeva M., Lubina B., Rogova A., Romanova N.,
Khlebnikova N., Cherepov A.**

Background: The formation of priorities of healthy life-style is now becoming a vital necessity for peoples living in megalopolises, including Moscow city. Principles of health-protection and health-creation are now integrating into the education sphere. At the same time, without belittling the necessity of concern for the rising generation, we should not forget about the health of teachers largely determining general psychological climate in educational institutions.

Aim: We analyzed the dynamics of functional state of cardiovascular system and parameters of psychomotor sphere in teachers of Moscow city over the period of 2001–2010 and compared the functional state of pedagogues and industrial workers and researchers.

Patients and methods: All parameters were standardized relatively to normal values in the sex- and age-matched group of arbitrary healthy individuals and converted into points, functional state of organism's systems was rated as «balanced»-«sufficient»-«strained».

Results: It was found that functional state of cardiovascular system and psychomotor sphere in teachers did not differ from that in industrial workers. Ten-year monitoring revealed no significant changes in the functional state of the organism in teachers.

At the same time, a tendency towards elevation of systolic pressure, increase in VLF range power in heart rhythm variability spectrum, lengthening of QRS interval, and depression of ST segment on ECG were observed in teachers. All these changes occurred within the «balanced» state. In psychomotor sphere, a tendency towards impairment of movement accuracy was revealed.

Single testing of psychomotor responses, attention (Burdon correction test), and health status showed that movement accuracy correlates with health status as well as productivity index in the Burdon test. In turn, health status is determined to a great extent by the state of the cardiovascular system.

Conclusion: These findings attest to negative tendencies in functional state of the organism in teachers, residents of Moscow city.

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METHODOLOGICAL ASPECTS OF EVALUATION OF THE EFFICIENCY OF HEALTH-PROTECTING ACTIVITY IN EDUCATIONAL SPHERE

Pankova N., Karganov M., Abakumav A.

Background: Inclusion of health-protecting activity into competences of modern pedagogues implies acquirement of the basic knowledge in age-specific physiology, psychophysiology, psychology, and pedagogics.

Aim: At the same time, it is important to understand that health-protecting activity is not only the process. This activity is aimed at a result, which requires quantitative evaluation.

Patients and methods: Practice of many years for evaluation of the efficiency of health-protecting activity in educational institutions and the experience of advanced training for school health-protection specialists allowed us to select some important aspects critical for correct interpretation of the obtained results.

Results:

1. Evaluation of the efficiency of any educational technology requires two examinations, baseline and testing; on the other hand, the technology is applied against the background of physical, psychic, and intellectual development of the child. Hence, it should be taken into account during interpretation of the obtained results that the expected result in the form of improvement/impairment will interfere with natural age-specific dynamics of physical and functional development of the organism.
2. Educational technologies are used during the school year, i.e. during three seasons. Chronobiological studies performed on humans and animals showed that functional activity of systems and organs varies in different seasons.
3. Changes in functional parameters of organs and system of children organism induced by various educational technologies, including variants of physical education, reflect not the transition from «norm» to «pathology» and vice versa, but the formation of a new functional state within the «norme» state.
4. The main result of pedagogical innovations is the shift of the terms of development and functional maturation of systems and organs.

Conclusion: Neglect of these aspects usually leads to false-positive/negative conclusions on the efficiency of the studied health-protecting technology.

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PURCHASING BEHAVIOR OF MEDICAL STUDENTS

**Parenkova I., Kokolina V., Philipchenkova S.,
Evstipheeva E., Mikheev M.**

Background: Education is one of the important factors of determination of successful socialization of contemporary students on basis of their purchasing behavior.

Aim: The aim of the research was studying the suite purchasing behavior of medical students.

Patients and methods: 206 students of Tver State Medical Academy, 149 girls and 57 youth at the age from 17 to 24 years old.

Methods: levels of reactive anxiety and personality one were estimated by D. Spielberger and Y.L. Chanin test standard, reflexivity levels – by A. V. Karpov test standard, motivation to desire success and to avoid failure – by Leontyev test standard, social-psychological adaptation – by K. Rodgers and R. Dyemond test standard, level of rationality and readiness to risk – by T.V. Kornilova test standard.

Results: Average score in reactive anxiety and personality is 45,9 and 44,1 respectively. High level of reflexivity (7,3), moderately high level of motivation to desire success (16,7), average level of motivation to avoid failure (13,3), high score in «life target» scale (30,6) has been revealed.

Average score of adaptation is a little below the normal (63,9), above average are such scores as self-loyalty (77,2), loyalty to others (69,3), emotional comfort (59,8), internal self-control (65,3), desire for domination (61,5).

Students show average level of self-assurance (5,1), self-loyalty (4,6) self-guidance (4,0), self-accusation (4,5) and self-appreciation (3,9). Average score of rationality of students being tested is 6,3, readiness to risk is 1,2.

Conclusion: Anxiety scores of students indicate tension and nervousness of the respondents. However, they make responsible decisions, neutralize conflicts and avoid high risks. Boys and girls demonstrate psychological and emotional stability, self-control, tranquility. Therefore, the risk of social adaptation disturbances of medical students is low.

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**THE ROLE OF SCHOOL TYPE
AND FAMILY AFFLUENCE
IN EARLY EXPOSURE TO RISK BEHAVIOURS**

Pavic Simetin I., Kuzman M., Pejnovic Frelacic I.

Background: Personal social positions influence pupils' risk behaviors more strongly than social positions of their families.

Aim: To examine the influence of Croatian pupils' family affluence and school type on early exposure to risk behaviors (first cigarette, drunkenness and sexual intercourse at age 13 or younger, and at age 14 and 15).

Subjects and methods: The Croatian data from Health Behavior in School-aged Children 2005/2006 (773 boys and 857 girls, aged 15) were used. Multivariate multinomial logistic regression analyses were conducted (95% confidence intervals).

Results: Compared to low family affluence, high family affluence was associated to higher odds for boys' first sexual initiation and drunkenness at age ≥ 14 (no associations for age ≤ 13). Family affluence was not associated to boys' first cigarette. Compared to gymnasiums, boys from industrial and crafts schools had higher odds for first sexual intercourse, drunkenness and smoking at age ≥ 14 and even higher odds for first sexual intercourse, drunkenness and smoking at age ≤ 13 . Compared to gymnasiums, boys attending technical and related schools reported higher odds for first sexual intercourse at age ≥ 14 and higher odds for first sexual intercourse, drunkenness and smoking at age ≤ 13 . Compared to low family affluence, high family affluence was associated to higher odds for girls' drunkenness at age ≥ 14 (no associations for age ≤ 13). Family affluence was not associated to girl's first cigarette and sexual intercourse. Compared to gymnasiums, girls attending industrial and crafts schools had higher odds for first sexual intercourse at age ≥ 14 , and for first drunkenness and smoking at both age. Compared to gymnasiums, girls attending technical and related schools reported higher odds for first sexual intercourse and cigarette at age ≥ 14 and higher odds for drunkenness at both ages.

Conclusion: School type was more consistently connected to risk behaviors at early age than family affluence was.

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**THE USAGE OF EDUCATIONAL
AND HEALTH-SAFE PLAYS AND DEVICES
IS THE POSSIBLE WAY OF IMPROVEMENT
OF PHYSICAL AND PSYCHIC HEALTH
OF CHILDREN**

Pavlova G., Karavaeva T., Genze A., Chlebnikova L.

Background: Last years the decrease of physical activity of children was observed. The value of current physical activity of children covers only 50–60% of recommended level. The reasons for this phenomenon are different. We propose the possible ways for solving the above-mentioned problem.

Aim: We created the number of educational and health-safe plays and devices which were included into the educational process. All the author's rights are reserved. The plays and devices were used in kindergartens and schools of Izhevsk city as preventive measures for improvement of children health.

Subjects and methods: The different methods for estimation of efficiency were applied such as express-method of «physical health» estimation, method of psychological status estimation, and method of mental (intellectual) ability estimation.

Results: The usage of «funny» plays (games) with high quantity of movements tends to initiate of improvement of psychological status. The special indexes of test «SAN» were increased: the value of «well-being» from $5,2 \pm 0,1$ to $5,8 \pm 0,4$, the value of activity from $4,3 \pm 0,3$ to $5,1 \pm 0,3$, the value of mood from $5,6 \pm 0,2$ to $6,0 \pm 0,1$ ($p < 0,05$). The value of adaptation potential was increased on $21,4 \pm 0,9\%$, thus the resistance to impact of environmental factors was improved. The quantity of children with readiness to «active role in own life» were increased on $21,7 \pm 4,1\%$.

The value of «physical health» were increased, the quantity of children who had high and above medium value was increased on $19,4 \pm 3,9\%$.

The value of mental (intellectual) ability was improved also. The results shown that the quantity and quality of tests were increased on 27,6% and 35,4%. The value of mental fatigue decreased on 33,6%.

Conclusion: The usage of educational and health-safe plays and devices is the possible way for improvement the values of physical health and psychic health of children.

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SPORT CLUB PARTICIPATION AND HEALTH RISK BEHAVIOURS

Pejnovic Frelanic I., Kuzman M., Pavic Simetin I.,
Rojnic Palavra I.

Background: Sports participation relates to health benefits, but also to some negative health behaviors.

Aim: To examine relationships between sport club participation and some risk behaviors by gender.

Subjects and methods: Survey about Health Behavior in First Year University Students in two Croatian Universities in 2009. The students' average age was 19.9 years ($n = 2384$, of which 1082 male and 1302 female).

For risk behaviors several items were observed: (i) anytime in life using some illicit drugs, (ii) in the last 30 days drinking alcohol and smoking cigarettes, (iii) in the last 12 months fighting, (iv) driving after drinking alcohol beverages and (v) unsafe sexual activity. Connection with being a member of a sports club or not was observed. Chi-Square Test was used.

Results: The proportion of university students involved in sports clubs is higher in males than in females (71% versus 29%). Sports club participation is connected for males to more steroids using anytime in life ($p = 0,011$), more involvement in physical fights in the last 12 months (boys $p < 0,000$), more driving after drinking alcohol (boys $p = 0,022$) and less smoking marijuana 10 and more times in the last 30 days (boys $p = 0,040$). The association is not statistically significant for females. More of the students participating in sports clubs were not using condoms in the last 12 months and more were sorry the day after having sex, in both cases the difference being statistically not significant. More students, who were not participating in sports club activities, were drunk 10 and more times in the last 30 days, were smoking cigarettes, were drinking 10 and more times in the last 30 days, were using amphetamines and cocaine anytime in life. Also these differences were statistically not significant.

Conclusion: Participation in sports club activities affords health benefits, but relates to some negative health behaviors in males. Further investigation should be done to explore preventive interventions targeting risk behaviors among male sports club participants.

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EXAM ANXIETY: THE ROLE OF SCHOOL DOCTOR IN THE COUNSELING CENTRE CASE STUDY

Perasovic J., Karin Z.

Background: Aiming to bring school medicine closer to its users and make it more accessible, counseling is being applied with the possibility of direct approach to the doctor in the Health Centre as well as at school. Exam anxiety (when examining knowledge, skills and learning capabilities) is often experienced throughout the education process. It has a great impact on pupil's success, and generally speaking on its psychological development. In previous studies using the behavioral and cognitive technique has proven useful in reducing anxiety symptoms in children.

Aim: To show the case of a 13-year-old girl with exam anxiety, who has been exposed to the treatment and techniques applied as per behavioral and cognitive principles (cognitive and behavioral treatment, CBT), and pointing to the role of school doctor.

Subjects and methods: Behavioral and cognitive techniques through individual counseling in 12 meetings were applied to a 13-year-old girl with exam anxiety.

Results: The use of behavioral and cognitive technique leads to decreased intensity of anxiety during oral exams, better grades, self-confidence and achieving better social status among peers.

Conclusion: Using CBT has proved useful in reducing symptoms of exam anxiety. It is important to notice the emotional disorders and difficulties of children and youth which could affect the learning process, progress and their adjustment to school; a school doctor works towards decreasing or removing the above mentioned disturbances through individual counseling, aiming to achieve better school results and preventing the development of secondary emotional superstructure and psychical disorders.

181 SCHOOL FOOD AS A RISK FACTOR FOR CARDIOVASCULAR DISEASE

Petchkurov D., Voronina E.

Background: Nutrition plays an important role in physiological processes within the body of the child, increasing its impact resistance of pathogenic factors. However, it should be noted that the majority of diseases directly related to the problem of supply, including cardiovascular disease.

Aim: Identify problems in the diet of students; examine the relationship between malnutrition and the formation of cardiovascular disease.

Patients and methods: 320 families of pupils of school № 157 and Lyceum «Constellation» № 131, Samara, from 1 to 11 classes have been interrogated. An original questionnaire to assess the usefulness and balanced nutrition, as well as the regime moments meal.

Results: In accordance with the criteria of balance of power proposed by the Institute of Nutrition, identified two groups of students: to obtain optimal nutrition – 81 (25%) and receive inadequate, inappropriate, unbalanced diet – 239 (75%). Nutrition 48 students (20%) is inferior to animal protein content, 56 (23%) – the content of dietary fiber, 26 (11%) – full of fat. Catering for most students is excessive for the content of carbohydrates: 165 children (52%) consumed in excess pastry, 183 (57%) – Chocolate, 45 (14%) – sweet drinks, carbonated drinks. In 86 children (30%) had excessive consumption of sandwiches, hamburgers, 23 (10%), French fries, and these eating habits in high school more pronounced (16% compared to 5% of primary school students), besides, children are school age more likely to use marinades, salinity – 15 (31%) and additionally salt already salty foods – 4 (8%). A third of pupils (35%) have long intervals between meals and dinner less than an hour before bedtime.

Conclusion:

1. Among the various eating disorders that are risk factors for overweight and obesity has an important place excessive consumption of confectionery, fast food (fast food), non-alcoholic carbonated beverages, and violation of the meal
2. Excessive consumption of pickles, salt increases the likelihood of developing cardiovascular diseases.

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PREVALENCE OF ADOLESCENT VARICOCELE IN THE SPLIT-DALMATIA COUNTY

Petric I., Stipic N.

Background: Early identification and treatment of varicocele during adolescence may reduce the risk of infertility.

Aim: Establishing varicocele prevalence in local population. Comparison with the 2005 research results.

Patients and methods: By retrospective method we processed 3,358 preventive medical records of the Split secondary school students aged 14–18. The students underwent physical examinations in the grades 1, 5 and 8 of elementary and grade 1 of secondary schools. We analysed records of surgeries performed in the Split Clinical Hospital, Children Ward, from September 2007 to May 2010. We compared the results with those reached in 2005.

Results: The number of adolescents with varicocele is 470 (14%). To further examinations by child surgeon or adolescent population specialist are referred 286 students (61%). Surgery underwent 130 students (28%). A significantly lesser number underwent surgery and a larger number underwent surgeon or specialist control. In 2005 54% of the varicoceles found were operated, relative to 28% found operated in this year research.

From September 2002 to April 2005 at the Children Ward 267 adolescents aged 10–18 were operated for varicocele.

From September 2007 to May 2010, 290 adolescents aged 10–18 were operated for varicocele.

Conclusion: We established a larger percentage of varicocele relative to the first research. A significantly lesser number of children are operated, and a larger number is subjected to surgeon or adolescent population specialist control. Most of the students operated are of the age of 15–16, one year later than in the previous period. A significantly larger number of students are operated at the age of 16–17. This has confirmed the need of systematic examinations, under more adequate conditions, as well as additional education and animation of school population physicians about this issue. Required is further cooperation and insight into our intervention results.

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**HEALTHY AT SCHOOL? HEALTH
AND WELLBEING OF CHILDREN
AGED 6 AND 12 IN A MULTIDISCIPLINARY
COHORT STUDY (JONG!) IN FLANDERS**

**Pieters C., Roelants M., Van Leeuwen K., Desoete A.,
Hoppenbrouwers K.**

Background: Longitudinal data on health and wellbeing of children and adolescents provide a unique opportunity to study determinants and protective factors for the need for care. These data are however scarce, and the knowledge on this subject is limited.

Aim: To document the physical and mental health of children and adolescents in Flanders, and to study the impact of health and socio-demographic factors on their development and wellbeing

Subjects and methods: As part of a larger multidisciplinary cohort study, 1891 primary school children (born in 2002) and 1499 adolescents (born in 1996) were recruited from May to October 2009 for a 3-year longitudinal study. Data on health, behavior, education, wellbeing, life events, socio-economic situation and need for care, were derived from questionnaires completed yearly or biannually by parents of children and adolescents ('parent report') and adolescents ('self report').

Results: According to the parents, about 13% of the participants suffered from a serious health problem in the past, and 10% of primary school children and 15% of adolescents were diagnosed with emotional or developmental problems. The presence and frequency of these problems will be related to early childhood factors (e.g. prematurity), medical consumption (medication, hospitalization) and socio-economic factors. According to the self reports, about 35% of the adolescents judge their health as suboptimal, and less than 40% never experience depressive thoughts or feelings. Additional data about teenage risk behavior will be presented.

Conclusion: This large multidisciplinary study provides an opportunity to correlate physical health, mental health, and wellbeing, in a longitudinal and multidimensional way.

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GENDER DIFFERENCES IN CARDIOVASCULAR SYSTEM ACTIVITY OF KYIV SCHOOLCHILDREN**Platonova A.**

Background: Circulation efficiency index (hereinafter referred to as CEI) characterizes the volume of blood ejected by heart for 1 minute and is available to assess the effect of sympathetic and parasympathetic nervous system on the blood flow regulation and changes in physical capacity of the organism. Its decrease indicates a decrease in body energy consumption to move blood through the body, i. e. to increase the capacity of the cardiovascular system.

Aim: Identify the gender and age differences in the activity of the cardiovascular system of schoolchildren, to develop preventive measures.

Patients and methods: The value of diastolic and systolic blood pressure, heart rate was defined, followed by calculation of the coefficient by the formula: $CEI = (SBP - DBP) \times HR$. A total number of 2,453 schoolchildren aged 6–17 years (1224 boys and 1229 girls) were examined. The study complies with the requirements of biomedical ethics.

Results: It was found that, the percentage of boys aged 7, 15 and 17 with stress in the CVS activity was significantly ($p \leq 0,001$) higher than that of girls of the same age. The greatest risk is at 7 years, when every second child had pathological responses, even in conditions of rest (51%). Overall, 47% of urban boys aged 6–10 have a poor state of CVS functions. At the age of 11–14, statistically significant differences between boys and girls are not established; in general, 55% of boys have a poor state of CAS functions. 83,7% of urban youths aged 15–17 years have stress in the CVS, which in its turn is significantly greater than that of girls of the same age.

Conclusion: We have established gender and age differences in the activity of the cardiovascular system of schoolchildren. 15 and 17 years are most risky periods for boys CVS complications development. These new findings are the basis for the revision of the physical and mental stress at school for children with borderline states, development of standards for functional performance and physical development in general.

185 PHYSICAL DEVELOPMENT OF UKRAINIAN VILLAGE BOYS AGED 6–17 YEARS

Platonova A.

Background: It is impossible to make and implement management decisions on ensuring the sanitary-epidemiological welfare of the children's population without objective knowledge about the state of physical development and its harmony.

Due to imperfect processes of growth and development, the child's body is sensitive to the effects of environmental factors and preventive measures for health maintenance during the school period.

Aim: Evaluate the physical development of schoolchildren living in the Ukrainian villages and to develop regulations (standards) of the physical development of children of 6–17 years old.

Patients and methods: In terms of natural hygiene experiment 680 rural boys aged 6–17 years were examined. Anthropometric studies (length, weight, chest, lung pulmonary vital capacity) were conducted in accordance with the methodology approved for Ukraine.

Results: The average (normal) harmonious physical development was established in only $47,03\% \pm 2,66\%$ of children aged 6–14 years; in $49,06\% \pm 6,87\%$ of 15 year old boys; in $51,79\% \pm 6,68\%$ of 16 year olds and $38,18\% \pm 6,55\%$ of 17 year olds, respectively. Every third boy aged 6–14 had disharmony of physical development, which is due to underweight ($31,15\% \pm 4,19\%$), and the rest of children had disharmony due to low chest circumference index and lung pulmonary vital capacity, $9,09 \pm 1,29\%$ of children were underweight and $2,13 \pm 0,63\%$ of children were overweight. It was established that the number of boys with obesity was significantly ($p \leq 0,001$) more than that of girls of the same age ($5,74\%$ and $2,10\%$ respectively).

Conclusion: The national «Standards for assessing the physical development of schoolchildren» were designed, produced and introduced into treatment practice.

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HYGIENIC ASPECTS OF USING ELECTRONIC TEXTBOOKS IN UKRAINIAN SCHOOLS

Platonova A., Dzhurinskaia S.

Background: Educational reform in Ukraine is characterized by a significant complication of school curriculum, the emergence of new subjects and forms of education. Intensive development of computer technology, especially electronic textbooks, contributes to the intensification of educational process and affects the health of children.

Aim: Setting features of using (frequency and duration) electronic textbooks by schoolchildren.

Patients and methods: 506 pupils (230 boys and 276 girls) of 5–11 grades of schools in the city of Kyiv were questioned.

Results: It is established that children do not use electronic textbooks during lessons. 93,7% of the pupils had personal computer at home and only 41% of them used it to view electronic textbooks while preparing homework. Duration of daily work with electronic textbooks in 38,3% of the children was one hour; 31,7% of children worked an hour and a half and 30% of pupils – an hour and a half or more. Among students of different classes those, who worked especially long with electronic textbooks were pupils of 10th and 11th grades.

We have established subjects, on which electronic textbooks are most popular: 61,5% of pupils used electronic textbooks for the Humanities, 32,8% of children were interested in electronic textbooks on natural history subjects, especially interested were boys (60%) – pupils of 11 grade; 27,8% of pupils studied with electronic textbooks on mathematics.

Conclusion: Thus, almost every second pupil is actively using electronic textbook at home as an educational resource, and about 40% of children every day at least 1 hour use the electronic textbooks and 30% – for more than an hour and a half a day; across the whole spectrum of subjects and disciplines, the electronic textbooks are created on, (61,5%) humanities dominated, the second place is taken by natural history discipline, and the third – by the mathematical discipline. This necessitates the use of hygienic standardization of textbooks in electronic form at school.

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HYGIENIC ASSESSMENT OF TEXTBOOKS READING IMPACT ON PSYCHO-EMOTIONAL STATE OF CHILDREN

Platonova A., Dzhurinskaia S.

Background: According to the education reform in Ukraine school starts at the age of 6. The process of reading for children of this age is difficult and gives them a visual and nervous exhaustion.

Aim: Conduct hygienic assessment of the textbooks reading impact on psycho-emotional state of pupils of 1–4 grades.

Patients and methods: 104 pupils (52 boys and 52 girls) of schools in the city of Kiev were examined according to the method of M. Lusher. This method objectively characterizes the personality traits of each child and its neuropsychological condition. Examination of children was carried out before and after working with textbooks in humanities and mathematics.

Results: It was established that during the reading process the level of anxiety and emotional stress increases: in boys (50,0%) while working with a textbook of mathematics, and in girls (31,0%) – while working with textbooks in humanities («Mother Tongue», «Reading»). There is a decline in mental performance in 37,5% of boys while working with a textbook of mathematics and in 44,8% of girls while studying humanities.

It was revealed that 1/3 of the surveyed children had autonomic dysfunction on the background of changes in autonomic tone. As a result, children with sympathicotonia passed to a group of parasympathicotonia, eutonic or vice versa. Such changes in autonomic tone have an adverse impact on the adaptive capacities of the child, causing a stress.

Conclusion: Thus, the process of working with textbooks promotes the development of psycho-emotional stress and decreases adaptive capacity with increased anxiety and changes in autonomic tone. The results obtained make hygienic standards necessary: of the text volume for a single reading in various disciplines (subjects); the parameters of textbooks font design; the duration of uninterrupted time of textbooks reading.

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INTERSECTORAL APPROACH IN THE HISTORY OF FORMATION AND DEVELOPMENT OF SCHOOL HYGIENE IN UKRAINE

Platonova A., Polka N.

Background: The development of children hygiene in Ukraine is characterized by tradition and continuity. In the XII century in the «Grand Prince Vladimir Monomakh's Instruction to His Children» and «Medical treatise» of his granddaughter Eupraxia advice on hygiene and health education of children were described.

Aim: To study history of development of school hygiene in Ukraine.

Patients and methods: Scientific articles, archived materials, literature, retrospective analysis.

Results: In XVI–XVII centuries the schools at cathedrals and churches, where the basic hygiene and healthy lifestyles were taught, were established. The most famous of them were located in the Kiev Pechersk Lavra, Kyiv brotherhood, St. Sophia Cathedral and Kyiv-Mohyla Academy. In 1871 the Department of Hygiene, which became the center of school hygiene, was established in Kyiv University. Later, the first «Department of Health Education» (1925), and then the «Department of School Hygiene» (1935) were established in Kiev Medical Institute. During the war years (1941–1945) virtually the entire territory of Ukraine was occupied by the Nazis, which affected the health of children. For the organization and scientific management of school hygiene issues in January 1949 upon the initiative of the known Ukrainian scientist, A.N. Marzeev the department of school hygiene at the Ukrainian Institute of Communal Hygiene was established.

Conclusion: For 62 years of its activity the department has become the largest scientific center, the main methodological resource of the Ministry of Health of Ukraine, a leading developer of all national normative legal acts, a renowned resource of the young and talented scientists. The main principles of the Scientific Center activity is a multi-sectoral (hygienists, pediatricians, teachers, psychologists, architects) approach in conducting comprehensive studies and resolving pressing problems of school hygiene, which ultimately improves the health of children in Ukraine.

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**PHYSICAL ACTIVITY OF ADOLESCENTS
AS PART OF THEIR LEVEL OF HEALTH
AND ADAPTIVE CAPACITIES OF THE BODY
FORMATION**

Platonova A., Skochko T.

Background: Promotion of healthy lifestyle, including physical activity is a key aspect of the European Union programs on health formation. Hypodynamia becomes leisure «standard» of modern pupils. This is of concern because it is childhood, when the skills and way of life, on which future human health depends, are formed.

Aim: Analyze the connection between level of somatic health and adaptive capacities of healthy seniors with their physical activity.

Patients and methods: To determine physical activity of children, a sociological survey, using specially designed questionnaires and clinical and physiological examination, which allowed based on a set of indicators to calculate and assess the adaptive capacity and level of somatic health, were conducted.

Results: Results of health assessment of schoolchildren with no chronic diseases show that 57,7% have low level of health, 29,8% have average one and only 12,5% have high level of health. It is statistically significant that among pupils who go in for sports the number of those who have high health (tboys = 3.1; tgirls = 2.8) is more, compared with children who are physically inactive. Mainly physically disabled children have low somatic health. 52,4% of pupils have satisfactory adaptive capacities, 47,0% have stress of adaptation mechanisms, and 0,6% has poor adaptation. Most girls have satisfactory adaptation, while most boys have stress of adaptation mechanisms. With physical activity increase, the number of children with satisfactory adaptation (from 48,8% among children, who are not physically active, up to 60,2% among those, going in for sports) increases and, consequently, it decreases due to stress of adaptation mechanisms.

Conclusion: Thus, physical activity, and primarily exercises, positively affects the level of somatic health and adaptation reserves of healthy adolescents, i.e. contributes to the preservation of children's health.

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**COMPARATIVE CHARACTERISTICS
OF PHYSICAL AND SEXUAL
DEVELOPMENT OF CHILDREN
IN THE CITY AND IN RURAL AREA**

**Plekhova E., Danilenko G., Varadova O., Merkulova T.,
Kosovtseva A., Vodolazhskiy M., Peresyphkina T.**

Background: Physical development is an important characteristic of health status and an indicator of environmental influence on the developing of child's body. The appraisal of physical development by common standards can make it difficult to identify health problems that are typical for a particular region.

Aim: Objective – to identify actual and regional features of physical development and puberty in adolescents.

Patients and methods: Object – simultaneously – height, weight and sexual development of 1569 boys from Kharkov and 1225 boys (10–18 years) from rural areas, longitudinal – physical development, puberty and health status of 320 students from high school from 4 to 9 grade.

Results: It was established that a modern tendency of puberty in boys were more earlier (1–1,5 years) beginning of pubertal changes of reproductive organs and developing of secondary sexual characteristics. The terms of approach of such characteristics and achievement of definitive degrees of development differ significantly in urban and rural areas. Clinical and hormonal features of setback of sexual development were identified, depending on location, in the presence of characteristic feature – a significant decrease of testosterone production that is associated with a lack of central stimulation and reduced sensitivity to its gonads. The impact of an insufficient body mass on the slowdown of pace of sexual development in boys was proved. The differences of the influence of health status and factors of school environment on the mental efficiency of boys and girls were established depending on the stage of sexual development.

Conclusion: Summary – physical and sexual development has regional characteristics that must be considered when designing medical and preventative programs.

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ACADEMIC LOAD EVALUATION
IN INNOVATIVE SCHOOLS FROM THE POINT
OF VIEW OF HYGIENIC NORMS

Pogorelova I., Zaznobova T., Reshetnik L., Lyubov R.

Background: Deterioration of health conditions of teenagers studying in innovative educational institutions (Lyceums) due to increased academic load.

Aim: To analyze weekly academic load in schools and Lyceums in one of Irkutsk's districts

Patients and methods: A. G. Sukharev's criteria indicators and I. G. Sivkov's method were used.

Results: Weekly academic load in a Lyceum was 41.1 ± 0.48 hours, which is 27,6% more ($p < 0,001$) than the academic load in a regular high school (32.2 ± 0.27 hours). Lyceum's daily load is 0.9 hours longer than a regular school's load, whereas the maximum permissible weekly academic load exceeds the norms by 14,2%. Lyceum students' mode of studies consists of duplex forty-minute periods with a short break, as opposed to the regular school students' mode, where the length of periods and breaks complies with established standards.

Weekly academic load of high school students in regular schools and Lyceums.

Conclusion: Excessive levels of lyceum students' academic load and its uneven daily and weekly distribution that does not take into account the biorhythms of mental capacity promote the student's fatigue, exertion and disrupted adaptation.

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SCHOOL TEENAGERS' FEATURES OF LIFE AND THEIR CONTRIBUTION INTO HEALTH DEVELOPMENT

Polenova M.

Background: Increase of educational load in modern secondary school, heavy school teenagers' occupation in the sphere of extra education, absence of right conceptions about efficient routine of the day can lead to general overload of school teenagers, to limitation of realization of their age-specific biological needs for motor activity, for being in the open air, for sleeping, thereby influencing the formation of health.

Aim: To identify teenagers' features of life.

Patients and methods: The daily routine of 1000 muscovite schoolchildren from the fifth to ninth classes was studied with the help of the questionnaire survey.

Results: The hygienic assessment showed that about 90% of schoolchildren have an insufficient duration of sleep at night; about 50% of them – insufficient time for walks. After classes more than 80% of teenagers have additional educational activities. At the same time more than half of pupils from the fifth to the ninth forms have stable interest to the classes of intellectual character and spend more time on them than on motor activities. In spite of increasing static activity more than a half of adolescents spend about 1.5 hours on watching TV and computer playing. More than 50% of adolescents have irrational nutrition and bad habits (smoking, alcohol use). On the background of hygienically irrational routine of life the number of teenagers' complaints of headache, tiredness, low spirits and irritation increases gradually in dynamics of education in the secondary school and is registered among more than the third part of the ninth formers.

Conclusion: So the failure to follow hygiene regulations of the basic elements of routine and also heavy occupation in the sphere of extra education with the predominance of static kinds of activities are modern muscovite schoolchildren's most characteristic features of life, and from the fifth to the ninth grades the total static component intensifies, creating preconditions for formation of negative changes in their health.

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THE NEED OF DENTAL TREATMENT AMONG THE UNIVERSITY STUDENTS WITH INTACT DENTURE

Pontys K., Vuorinen A., Tipuri M.

Background: The students in Finland have an opportunity to dental examination and dental care according the treatment plan. The first checking is free of charge.

Aim: The aim of this study was to find out the prevalence of intact denture among university students in Tampere and also find out what kind of oral treatment they need.

Patients and methods: Material: The total group was 3393 students (mean age 25.9 years). There were 1070 students (mean age 23.1 years) who had started their studies in the years 2008–2010 and came to first oral examination. Those who had intact denture were selected for closer observations. The examination was made by dentists who work in our clinic.

Students ($n = 147$) who had DMFT (decayed, missing or filled teeth according to WHO standards) and DT (decayed teeth) zero formed the sample group. Bite wing radiographic examination were taken from 65,8% of students. Panorama tomography was taken from 28,8% and 6,8% of students were given referral to PTG. Gingival health was recorded with CPI index. Numbers from 0 to 2 were considered as healthy meaning no periodontal disease.

Results: There were 301 (8,9%) students together and 146 (13,6%) students in the sample group with DMFT = 0 after clinical examination. There were more female in both groups than male. Dental caries was found 20,8% of the BWs taken students. The actual amount of DMFT = 0 students among first examination group was 126 (11,8%) after radiographic examination. Need of wisdom tooth or teeth extraction was among 19,2% of students and 4,8% of students suffered from TMD symptoms. Almost all students (89,0%) needed effective cleaning.

Conclusion: There is still need for some dental treatment among those who does not have caries after clinical examination. We considered it very important that radiographic examination is included to oral examination even though patient appears to have intact denture.

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**RISK FACTORS AND FORECASTING
POSSIBILITIES ADAPTATIONS OF YOUNGER
SCHOOLCHILDREN TO TRAINING**

Poretskova G., Petchkurov D., Emelina A., Tchikina L.

Background: Observations of last years testify to a proof tendency of deterioration of health of children during school training. Quite often it is bound by failure of adaptic processes.

Aim: To Study features of adaptation to training of younger schoolchildren and the factors influencing its current, to offer a method of forecasting of depression of adaptation

Patients and methods: We spend poll of parents, an estimation of medical cards and survey of 99 pupils of the first class, calculation of adaptic potential.

Results: For studying of a current of adaptation we had been twice spent survey of schoolboys with calculation of adaptic potential: in the first week and in the end of the first month of training. As a result of the first survey it is established that 30,4% of children had a low adaptation – adaptic potential on Baevsky 2,11–3,2 units. Repeated survey has taped 36 children with low adaptation that above on 19% in comparison with the first. Calculation of additional risk factors by results of questioning of parents in groups of children with various level AP has allowed to define importance of each of them. Among medical factors the greatest value vegetative disturbances (have pains of various localization, disturbance of a dream, appetite), in the psychological plan – the factor of authoritative relations, in social – residing conditions. Comparison of the sum of additional risk factors at children with good adaptation and from the low has shown original differences of the compared groups. At children with good adaptation AP has averaged $0,7 \pm 0,096$ units ($p = 0,05$), at children with low adaptation it was in 2 times above ($1,13 \pm 0,087$ units ($p = 0,05$)).

Conclusion: Thus, some reduction in functional reaction can be bound to influence of various factors. As the most corresponding indicator of an estimation of a stream of calculation of adaptation AP can serve during this period.

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YOUTH-FRIENDLY COUNSELLING
CENTRE FOR REPRODUCTIVE HEALTH:
SIX YEAR EXPERIENCE

Posavec M., Džepina M., Juhović Markus V., Mičija J.

Background: The importance of adolescent friendly health services is recognized among public health experts and encouraged in WHO health strategies and Croatian adolescent-health promotion programs.

Aim: To evaluate sexual behavior and results of gynaecological exams of female students during a 6-years-period.

Subjects and methods: From 2004 to 2009 a total of 1429 girls, aged 12 to 26 years, visited the Youth counseling centre in the Public health institute «dr. Andrija Štampar», Zagreb, Croatia, regarding reproductive health. After fulfilling a questionnaire on sexual behavior, a gynaecological exam was performed (visual inspection, pelvic exam, Pap test, HPV testing etc.) and a school medicine specialist provided counseling (STI/STD, contraceptive methods, relationship issues, referral to further diagnostics etc.).

Results: Most of the examinees engaged in sexual activities at age of 17 years, while 11,2% reported sexual debut at age 15 or younger. Almost every fourth girl (23,5%) had 3 or more sexual partners and 12,8% reported sexual relationships to be shorter than 2 months. Eight percent uses coitus interruptus as only contraceptive method, and only 7,1% percent combines condom with oral contraceptives. Abortion was confirmed by 25 students. This was the first gynaecological exam for every fifth girl. Abnormal results were found in 59,8% of Pap smear tests: inflammation in 48,4%; ASCUS in 13,7%; CIN I in 35,0%; CIN II in 1,6%; and CIN III in 1,2%. In one student carcinoma in situ was detected. High risk HPV was found in 9,5% of all examinees.

Conclusion: The vulnerability of the adolescent population (immaturity of genital system and potential risky behavior) and the results from this study indicate the necessity for more youth counseling centres which are accessible, acceptable, effective and costless to the student population. School medicine specialists are trained in communicating with young people on issues regarding reproductive health and sexual behavior. Therefore such counselling centres should be attached to school medicine services.

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REGIONAL PECULIARITIES
OF HEALTH STATUS IN SCHOOLCHILDREN
IN REPUBLIC OF BASHKORTOSTAN

**Povargo E., Zulkarnayev T., Ovsyannikova L.,
Zulkarnayeva A.**

Background: Healthy state of schoolchildren at present is the topical problem which requires deep and comprehensive study, detection of the major trends of its formation under the impact of biological, hygienic and social factors.

Aim: Objective is to detect regional peculiarities of the health formation in schoolchildren in Republic of Bashkortostan.

Subjects and methods: 1049 schoolchildren at the age from 8 to 16 were examined. Evaluation of the health status included analysis of the physical development and disease incidence. The relative risk (RR), attributable risk (AR), odds ratio (OR) has been calculated for establishment particular important risk factors.

Results: It has been determined that only 10,7% of schoolchildren were healthy, 54,1% of schoolchildren had functional abnormalities and 35,2% of children had chronic diseases. At the age of 8 years the number of children with functional abnormalities was the highest (57,6%), by age of 16 portions of schoolchildren with chronic diseases was found to increase up to 45,2%. Harmonious physical development was found in 64,1% schoolchildren. Inharmonious physical development was caused by the deficient body weight in 10,3% of the cases and excessive body weight in 16,6% of the cases.

It has been found that the impact of socio-hygienic factors and factors of school environment rises alongside with children growth and makes up 10,4% in 8-years children and 33,4% y in 16-years schoolchildren. The important of risk factors are a lot of time sitting at a computer, insufficient duration of night sleep, low motor activities, irrational organization of teaching and education, lack of separate room for every child in the family, conflicts in family life and low income per head.

Conclusion: Detected and elimination of risk factors for negative changes in health status of the rising generations alongside with the identified peculiarities make up the basis for developing and carrying out preventive measures.

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THE PHYSICAL DEVELOPMENT PECULIARITIES OF SCHOOLCHILDREN WITH LOW BACK PAIN

Povoroznyuk V., Ivashchenko M., Podlyanova O., Balatska N.

Background: According to the world epidemiologic researches the frequency of low back pain (LBP) among children is 10–44%. Anthropometric indexes are considered to the LBP risk factors among children, however up to now the mentioned above is contradictory.

Aim: To study the physical development peculiarities among the children with LBP living in one of the cities of Ukraine (Zaporozhye).

Patients and methods: 275 schoolchildren, aged 10–17. All children had objective examination with anthropometry, visual estimation of sexual development with the help of Tanner scale; body composition parameters were estimated using the Slaughter formulas 1988.

Results: 22,6% schoolchildren had complaints of LBP (23,6% – boys, 76,4% – girls). The age-related peak of LBP was among girls at the age of 13, among boys of 14–16. The girls with LBP were heigher than the girls of the control group up to 13 years old. The average height of the boys with LBP practically in all age-groups was shorter. The average weight of girls and boys with LBP practically in all age-groups was lower, but the weight of 15–17-year-old boys was more than of children from the control group. The boys' with LBP body mass increased thanks to the fat component and among girls with LBP – thanks to the lean body weight. According to Tanner scale the sexual development slowing-down was mentioned among the girls with LBP, especially at the age of 13 and 16.

Conclusion: The most vulnerable in physical development are girls with LBP at the age of 12–14 and boys with LBP at the age of 13–15 and that needs the early diagnostics and prophylactics.

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**THE PHYSICAL DEVELOPMENT
PECULIARITIES OF SCHOOLCHILDREN,
WHO ARE LIVING IN ZAPOROZHYE**

**Povoroznyuk V., Podlyanova O., Ivashchenko M.,
Balatska N.**

Background: Body composition is an important indicator of health status and physical development in children (Deurenberg, 2003).

Aim: The aim of this research was to study physical development peculiarities among the children living in one of the cities of Ukraine – Zaporozhye.

Patients and methods: 275 schoolchildren, aged 10–17, of a lyceum of Zaporozhye. All children had objective examination with anthropometry, harmonious type of physical development estimation, body composition parameters were estimated using the Slaughter formulas (1988).

Results: The girls' weight significantly increased at the age of 12–13 ($p = 0,003$) and growth from 10 to 13 ($p = 0,04$, $p = 0,003$). The boys had two growth-jumps: from 11 to 13 and from 15 to 16. The boys' body mass at the age of 11 and the girls' body mass at 12 increased thanks to the fat body weight and at the age of 12 and 16 among boys and 13 and 16 among girls – thanks to the lean body mass. Harmonious type of physical development was detected more frequently among girls. Disharmonious type of physical development at the age of 12, 14 and 16 among boys and 16-year-old girls (due to high growth rates).

Conclusion: The girls' growth-jump was observed at the age of 10–13, maximum weight gain – at the age of 12 due to the fat component. The boys' growth-jump recorded from 10 to 13 and at the age of 15–16, body weight increasing was mentioned at the age of 13–15 due to lean component. Boys at the age of 12, 14 and 16 and girls at the age of 16 are problematic in physical development.

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EFFICIENCY OF USE ARTICHOKE POWDER AT OXALATE NEPHROPATY OF CHILDREN

Prokopyeva O.

Aim: We used a powder of artichoke to correction of metabolic and pathology of membranes of children with oxalate nephropaty.

Patients and methods: The dry powder from artichoke tubers was received by 29 children with oxalate nephropaty (1 group). The powder was taken in a dozen 10–20 g per day (0,5 g/kg) in 2–3 ingestion 30 mines before meal within 21 days. The group of comparison of 25 children (2 groups) received traditional membranestabilizing complex with vitamins A, E, and B6 within 2 weeks. Vitamins were taken in standard dozes: vitamins A and E – 1,5 mg/kg day, vitamin B6 – 1 mg/kg day. All children kept to a diet with restriction oxalate products.

Results: The positive dynamic characterized by established decreasing at excretion level of oxalates during ingestions of artichoke ($151,24 \pm 3,9$ mkmol/day before ingestion, $129,4 \pm 2,21$ mkmol/day – after, $P < 0,01$). It was estimated like reduction of membranes pathology phenomena.

The greatest positive changes among parameters the POL after correction by a powder from artichoke tubers are found out at definition of the general antioxidizing activity of blood whey of blood ($7,18 \pm 0,32$ – before correction, $11,48 \pm 0,56$ -after, $P < 0,05$). The group of children which had had traditional therapy didn't show estimated increase at antioxidizing activity ($7,15 \pm 0,36$ – before correction, $8,24 \pm 0,97$ – after).

The authentic increase in selenium concentration in blood whey is revealed by phluorimetric method during ingestions of powder ($81,7 \pm 3,6$ mkg/l – before correction, $104,5 \pm 3,2$ mkg/l – after, $p < 0,05$).

Conclusion: We can suppose that increase of selenium concentration and as consequence antioxidizing activity of blood are caused by prebiotic action of inulin. It optimizes microbe amount in intestines and leads to improvement of suction process of essential elements (including selenium). Also we can suppose that increase of selenium concentration is caused by high amount of aminoacid methionine which is a carrier of this microelement.

200 SECURITY SELENIUM OF CHILDREN IN BAIKAL REGIN

Prokopyeva O., Parfenova E.

Aim: Security selenium of children in Baikal Regin and some clinical displays of selenium deficiency

Patients and methods: At epidemiological inspections by a method of random selection children in the age of from 1 year till 15 years, constantly living in Baikal Region in the cities of Irkutsk (n = 179), Shelekhov (n = 65), Cheremkhovo (n = 108), settlements Huzhir (n = 20), Kachug (n = 30) were selected. The maintenance of selenium was defined by fluorometrical method with use of reference-standards (Moscow, Scientific Research Institute of a feed of Russian Academy of Medical Science). The maintenance of selenium in hair was defined by a method of atomic-issue spectrometry with inductive-connected argon plasma. Research was conducted in International Center of biotic medicine (Moscow).

Results: At studying selenium security of children of Pribaikalye depending on age it is revealed, that the maintenance of an element in whey of blood increases with $53,0 \pm 2,2$ mkg/l in age group 1–3 years up to $80,1 \pm 2,5$ mkg/l in age group of 12–15 years ($p < 0,05$). The maintenance of selenium in hair of children increases with $1,12 \pm 0,08$ mkg/l in age group 1–3 years up to $1,66 \pm 0,05$ mkg/l in age group of 12–15 years ($p < 0,001$). Differences of the maintenance of an element in whey of blood depending on a gender are doubtful (boys (n = 68) – $71,9 \pm 2,3$ mkg/l, girls (n = 76) – $67,5 \pm 2,9$ mkg/l). Quantity of selenium in hair of boys (n = 141) – $1,38 \pm 0,06$ mkg/l which is lower, than in hair of girls (n = 117) – $1,61 \pm 0,05$ mkg/l ($p < 0,001$).

Conclusion: By results of researches it is shown: the maintenance of selenium in whey of blood of children in Pribaikalye makes $72,7 \pm 1,8$ mkg/l.

201 THE INTEGRATIVE APPROACH PATTERN FOR PROVIDING THE HEALTH-SAVING ENVIRONMENT IN A MODERN SCHOOL

Pronina T.

Background: Conducting of monitoring in the field of Children's and Adolescent Hygiene should be realized using inexpensive and noninvasive ways of prognostication before nosology conditions in children's health.

Aim: Mass hygienic diagnostics in the system «Environment – Health» in educational establishment.

Subjects and methods: The model of schoolchildren's health monitoring at school were offered. The model has been realized in the form of the computer program of monitoring «direct» indices of health and probabilistic risk factors. The software includes a program cover (for input and information editing) and a database (for storage and information processing in a format Microsoft Access).

Results: The program provides automatic calculation of passport age at the surveyed moment and «direct» health indicators before nosology conditions; representation of diagnostic data in a convenient for perception and the analysis; delivery on demand of necessary fragment of the information for any period of survey. The obtained results allow drawing comparison between different group of surveyed schoolchildren, for an example between classes or schools, town/village, boys/girls and etc. at the dynamics of education processes. The received results can be analyzed by the medical worker of school together with interested specialist or experts (psychologist, the social teacher, teachers on physical training, class teachers, pediatrist, children's and adolescent hygienist and so on).

Conclusion: Thereby, if you have an objective characteristic of interschool and interfamily environment, you can trace a route of changing «direct» indices of children's health («route of loss of health») for the concrete period of time spending at school from 7 up to 17 years. It is possible to define of the critical moments and the risk factors which action could take place in a concrete time. Timely correction can prevent manifesting a predicted pathology and to provide normal development and children's health of the during the subsequent age periods.

202

**MEDICAL TREATMENT FOR CHILDREN
AND YOUNGSTERS IN THE YOUTH HEALTH
RESORT DEBELI RTIČ-SLOVENIA**

Prunk B., Mugoša J., Cajnkar Kac M.

Background: The article presents the treatment of chronically ill or injured children and adolescents in the Youth Health Resort Debeli rtič.

The Debeli rtič peninsula cuts into the Gulf of Trieste in a northwesterly direction. The Youth Health and Holiday Center Debeli rtič, is situated in the midst of wonderful Mediterranean park and a lot of vineyards, where the coast gently touches the sea. There are several accommodation facilities, recreation areas, children playgrounds.

Subjects and methods: The resort specializes in

- health resort treatment (chronic respiratory and skin diseases, conditions, following locomotor system trauma or surgery, excluding head trauma)
- renew rehabilitation (endocrine and metabolic diseases, enuresis...)
- holidaymaking for children and adolescents up to 18 years of age.

Results: It offers health and educational care including appropriate accommodation, safe day-and overnight stay with full-day care. It provides all year round treatment and rehabilitation.

Medical treatment programs are based on clinical image of the ward and in accordance with a doctrine performed on University Pediatric Clinic and University Rehabilitation Institute in Ljubljana.

Conclusion: In all cases, the treatment results in improvement of the child's physical and psycho-social status, personality growth and a realization, that with a well managed chronic disease the affected children's quality of life is comparable with their healthy peers.

203

DIFFERENCES IN THE SCHOOL CURRICULUM AND THE SUCCESS OF STUDENTS IN SOME SECONDARY SCHOOLS

Puharic Z., Ticinovicivancic A., Petricevic N., Miklic T.

Background: There are various profiles of high school. Some last for four and some three years and after some students may enroll in college while others specialized in training students for work after completing education.

Aim: To investigate the heaviness of school programs and school success of students in the junior high school

Patients and methods: 502 students are filled a brief anonymous questionnaire with structured questions and offered answers from high school, medical, economic, commercial, technical and trade schools.

Results: Considering the type of school in high school we have the most students who will finish the year with excellent and very good grades (80,5%), while in the medical and economic has the most students who have insufficient success. ($X^2 = 161.492$, $df = 16$, $p < 0,001$). The school program is very hard considers 49,8% of respondents. Reviewed by schools to the most frequent response of students in high school (57,4%) and even 20,0% of students of technical and vocational school is considered the program to their schools is not at all difficult. To the question «What are the expectations of your parents?» Most students agreed that parents expect a lot from them, or an average of 95,8%. The schools, in high school most students believe that their parents expect a lot from them, while in the medical and crafts most children said that their parents' have average expectations ($X^2 = 24.423$, $df = 12$, $p < 0,05$)

Conclusion: The survey confirms the assumption, namely, that the most difficult high school curriculum that has entered the best and most promising students, because we have the most excellent and very good students and that and parents really expects much from these students. Your school students are considered light in technical and trade schools, perhaps with the fact that these are mostly three-year school where the program is based on practical work and training for work, not college.

204

IS THE HIGH COST OF HPV VACCINES CAUSE A SMALL NUMBER OF VACCINATION?

Puharic Z., Ticinovicivancic A., Miklic T.

Background: In our country vaccination against HPV viruses is not obligatory and parents must pay about 400 Euros for 3 doses. So, we want to know is high cost of HPV vaccines reason for lower stage of vaccinations between teen girls.

Aim: To examine the opinion of parents about price of HPV vaccination

Patients and methods: 299 parents, sample from Bjelovarsko-bilogorska county. Data were collected in school doctor ambulatory when parents came with the 6 years old children to psychophysical examine for school and it was anonymous questionnaire.

Results: Sociodemographic description of sample: fathers 30 (10,0%), mothers 266 (89,0%), other relations 3 (1,0%). There were 158 (52,8%) parents from town and 141 (47,2%) parents from village. Thee 84 (28,1%) parents had elementary school, 172 (57,5%) high school and 43 (14,4%) had college. I asked parents if they want to vaccination your daughters when she will be old enough for their own money. Most of parents want to do it. 20 (66,7%) fathers and 209 (78,6%) mothers will do it in the future. Then I asked parents if they will decide to vaccination daughters if this vaccine will be obligatory, and the state is pay full price. Then 96,7% fathers and 98,9% mothers said positive. Parents from village is 3,6 more sensitive about high cost of vaccine than urban parents 47/141 (33,3%): 16/158 (10,1%) (OR: 3,6; 95 CI: 1,8–7,2; $p < 0,001$). There is no statistical significant difference between parents educations.

Conclusion: The research shows that parents want to vaccinated daughters but high cost, especially for people in villages, is the most important reason why they decided not to do it.

205 KNOWLEDGE ABOUT HPV VIRUS AND VACCINATION BETWEEN 14-YEAR OLD FEMALE STUDENTS BEFORE AND AFTER LECTURE

Puharic Z., Ticinovicivancic A., Perasovic J., Miklic T.

Background: Human papilloma virus causes the most common sexually transmitted disease that affects both women and men. It is estimated that approximately 50% of sexually active people are infected with some kind of virus throughout their lives. Types 16, 18, 31 and 33 proven cause malignant changes on the cervix, which are most dangerous.

Aim: To examine knowledge of HPV and attitudes about vaccination grade 14-year old female students

Patients and methods: 100 students solved the anonymous questionnaire consisting of 6 short questions, and we wanted to gain insight into the knowledge of problem. We gave them the same questionnaire before and after lectures, so the results were comparable.

Results:

Have you ever heard about HPV? 60% yes, 40% no.

What disease can cause the virus? a) Inflammation of the bladder 32% b) cervical cancer 30% c) breast cancer 16% d) Don't know 22%

How is it spread? a) STD 72% b) food and water 8% c) air 5% d) Don't know 15%

Is there a vaccine against the HPV virus? a) Yes 66% b) no 11% c) Don't know 23%

Do you want to be vaccinated against HPV? a) Yes 55% b) no 42% c) Don't know 3%

Why you do not want to be vaccinated a) the vaccine is harmful 32% b) I am not sure that it will protect me 12% c) it hurts when vaccinated 28% d) Don't know 28%

Results after short lecture.

All girls know about HPV virus and how it's transmitted and what disease he can cause. They all know about vaccination.

What has changed is their attitude about immunization, namely the presentation of the facts 75% would be vaccinated and 25% would not be because 32% are not sure of the effectiveness of vaccines and 68% had pain injecting vaccines.

Conclusion: We are worried about their answer «I do not know» in a large percentage to almost every question, which indicates a low level of knowledge and interest on this subject, as well as the fact that almost half of them 45% would not be decided to vaccinate in first place.

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**PREVALENCE OF UNDERWEIGHT,
OVERWEIGHT AND OBESITY IN SCHOOL
CHILDREN IN PRIMARY SCHOOL CROATIA
1998–2009**

Puharic Z., Ticinovicivancic A., Petricevic N., Miklic T.

Background: In public health we have School and university medical services that vaccinate our pupils, do physical examinations, health education and counseling. Every year we measure body height and weight about 130 000 and 150 000 pupils, because we all know about overweight and obese risks (cardiovascular disease, diabetes mellitus, depression) and underweight risks (anemia, loss of bone mass, heart arrhythmias).

Aim: Compare prevalence of underweight, overweight and obesity in school children in primary school Croatia from 1998–2009.

Patients and methods: Pupils who did obligatory physical examination. We determine them into 2 groups: underweight (10 centiles and under), and overweight and obese (90 centiles and above). We have about 130 000 pupils every year. Our criterion is centile distribution curves of height and weight of school children and youth in Croatia (Prebeg Z.1988).

Data were collected in Public Health of Croatia, Zagreb.

Results: From this data we can conclude that share of overweight and obese children are growing between years, from 9,5% (1998) to 13,1% (2009) males and 9,3 (1998) to 12,0% (2009) females.

Number of underweight children are average every year, except 2000 year which was worrying 8,9% males.

Conclusion: We all know about negative effects variations in weight. These children are young, and we must invest all our knowledge and methods to prevent and decrease these numbers, using healthy life styles such as eating habits and more physical activity.

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SATISFACTION ENTERED HIGH SCHOOL-STUDENTS' OPINION

Puharic Z., Ticinovicivancic A., Petricevic N., Miklic T.

Background: In Croatia, after eight years of compulsory primary school, secondary school students enrolled in four-or three-year period. Many of them go to a new place for education and meet new peers, and the process of socialization and adaptation is extremely important for personal satisfaction and academic achievement.

Aim: Representative sample of 502 first-grade students of secondary schools to examine the satisfaction with school enrollment, and see are school pupils satisfied.

Patients and methods: 502 students are filled a brief anonymous questionnaire with structured questions and offered answers from high school, medical, economic, commercial, technical and trade schools.

Results: Statistically significant difference between the school you wanted to write and you have entered is not found in the gymnasium, economic and medical school, so students have coincided wishes and possibilities. Statistically significant difference found in the commercial and technical and trade school, which enrolled students who did not want. (McNemar $\chi^2 = 189.265$, $p < 0.001$, McNemar $\chi^2 = 198.999$ $p < 0.001$).statistically significant difference indicates in trade school where the lowest frequency of very satisfied students and the highest is completely dissatisfied and a bit of satisfied students ($X^2 = 59.699$, $df = 12$, $p < 0.01$) in the medical school is the most abundant and very satisfied students.

Conclusion: We conclude that the majority of our students after elementary school, enrolled at the desired high. Especially surprising are that students are most satisfied in the medical school and trade school to a mostly filled with students it was not the first choice.

208

THE ATMOSPHERE AT THE NEW SCHOOL TEACHER-STUDENT AND STUDENT-STUDENT RELATIONSHIP

Puharic Z., Ticinovicivancic A., Perasovic J., Miklic T.

Background: In Croatia, after eight years of compulsory primary school, secondary school students enrolled in four-or three-year period. Many of them go to a new place for education and meet new peers, and the process of socialization and adaptation is extremely important for personal satisfaction and academic achievement.

Aim: Representative sample of 502 first-grade students of secondary schools to examine the satisfaction with school enrollment, and see are school pupils satisfied.

Patients and methods: 502 students are filled a brief anonymous questionnaire with structured questions and offered answers from high school, medical, economic, commercial, technical and trade schools.

Results: In technical (craft) schools most students estimated the atmosphere very well; while in trade school pupils said that atmosphere is average. ($X^2 = 34.289$, $df = 16$, $p < 0,01$). To the question «How do you feel in school?» I have not yet used to it, say 7,6%, depressed and lost 5,8%, normally, as before, 31,5% and very good and fun to 55,2%. On the question of how teachers treat students 45,6% said that they understand them, 16,5% of them are encouraging, 23,9% are too strict and 13,9% are underestimate them. According to the type of schools, technical school students most believe that their professors are full of understanding and to underestimate them at least. ($X^2 = 32.802$, $df = 16$, $p < 0,1$).

Conclusion: The data are very valuable is the inner sense of confidence and acceptance in their new environment provides a better sense of students, which will result in better school success. We worry about high percentage of depressed and lost students in high school and commercial school, which should help experts. Also, lots of pupils do nothing organized in their free time 34.9% and this is the way to risk behavior.

209
PSYCHICAL WELFARE
FOR CHILDREN AND YOUTH

Punis D.

Background: Overweight and obesity in childhood are becoming one of the leading public health targets due to risks of cardiovascular diseases and diabetes in adult age.

Aim: Aim of this study was to compare Body Mass Index (BMI) of children at final grade to BMI while enrolling primary school. Also we tried to determine dietary habits and physical activity they have today as 14 year olds.

Patients and methods: Aim of this study was to compare Body Mass Index (BMI) of children at final grade to BMI while enrolling primary school. Also we tried to determine dietary habits and physical activity they have today as 14 year olds.

Results: Aim of this study was to compare Body Mass Index (BMI) of children at final grade to BMI while enrolling primary school. Also we tried to determine dietary habits and physical activity they have today as 14 year olds.

Conclusion: Aim of this study was to compare Body Mass Index (BMI) of children at final grade to BMI while enrolling primary school. Also we tried to determine dietary habits and physical activity they have today as 14 year olds.

210 CHILDREN AND TEENS' PHYSICAL DEVELOPMENT IN ONTOGENESIS (ON THE DATA OF REPUBLIC OF ADYGEA)

Pustovet Z., Chamokova A.

Background: Health main components improvement problem physical development also concerned depends on the knowledge of sensitive periods of organism and record-keeping of them in the process of dedicated external influence.

Patients and methods: We have studied the showings of height, weight, chest volume in ontogenesis (11–19 years old) those who keep fit ($n = 274$), in boys and youths who aren't fit ($n = 245$) in Republic of Adygea.

Results: At their age of 11 body size showing is in the boys who don't keep fit $144,2 \pm 7,3$, sportsmen have $145,3 \pm 9,4$; $P > 0,05$. During the studied period ontogenesis showing for sportsmen reached $178,4 \pm 11,6$ for compared group of their age $177,2 \pm 7,6$; $P > 0,05$. The difference between this two groups is true in both studied groups between 12–13 years ($P < 0,001$), and between 16–17 years ($P < 0,05$). Thus motion activity influence as growth stimulant only on the beginning period of exercises resulting in increased sportsmen body length development ($P < 0,01$). Further development rate showings level up and there is no true difference between studied groups.

The comparison of body weight of studied groups showed, that by 12 sportsmen ($40,6 \pm 6,8$) pass ahead of their age ($36,6 \pm 5,4$), not sportsmen ($P < 0,05$). Though by 13 this advantage level down. As a result of constant though not proved annual body mass increases of the sportsmen group by 18 pass ahead control group ($70,3 \pm 12,6$ and $64,0 \pm 10,2$ corresponding, $P < 0,05$). Further gap between group showings doesn't decrease but increases. ($72,4 \pm 12,8$ and $65,2 \pm 11,3$ $P < 0,01$).

Conclusion: Intensive increase of chest radius goes in the process of sport exercising at 11–12 ($P < 0,001$) within the limits $69,5 \pm 5,2 - 73,8 \pm 3,9$ cm. Further studied material increase occurs at 13–14 and 15–16 years ($P > 0,05$). Then comes two-year period, when annual increase is true ($P > 0,01$). In the result of such changes sportsmen chest volume increases from $69,5 \pm 5,2$ (at 11) till $92,6 \pm 8,7$ cm. (at 19). Thus chest volume increasing occurs after a year sport practicing then this advantage levels down and appears only by 17 year age.

211
PREVENTION OF CHRONIC RESPIRATORY
CONDITIONS IN PRESCHOOL CHILDREN
AT PREVENTIVE CHILD HEALTH CENTERS:
A CLUSTER RANDOMIZED CONTROLLED TRIAL

Raat H., Hafkamp E.

Background: Prevention of chronic respiratory conditions in childhood such as asthma is an important public health objective. This study evaluates the effectiveness of early detection of preschool children with asthma symptoms, followed by a counseling intervention at preventive child health centers.

Aim: To describe the short-term and medium-term effects of early detection and counseling with regard to chronic respiratory symptoms in preschool children.

Patients and methods: This cluster randomized controlled trial was embedded within the Rotterdam population-based prospective cohort study Generation R in which 7,893 children (born 2002–2006). Sixteen child health centers (CHCs) were randomized into 8 intervention and 8 control centers. An early detection tool was applied at age 14, 24, 36 and 45 months at the intervention centers. Children/parents received preventive counseling or referral. Outcomes were asthma diagnosis at age 6 years, frequency and severity of asthma symptoms, health-related quality of life (HR-QoL), fractional exhaled nitric oxide and airway resistance. Analysis was according to the intention-to-treat principle.

Results: In total 8,939 early detection report forms were collected for 3,478 children; 17% of the children had asthma symptoms during the past year. In the intervention group, counseling was applied to half of the children with ≥ 3 episodes of asthma symptoms in the past year, who didn't receive asthma therapy last month, mostly prevention of passive smoking. After the first year prevalence of tobacco smoke exposure was lower in the intervention group compared to the controls ($p < 0,05$). At age 4 years, HR-QoL was higher in the intervention group compared to control group ($p < 0,05$). Results at age 6 years will be presented.

Conclusion: Early detection and preventive counseling regarding chronic respiratory symptoms at CHC's is feasible and may contribute to improvement of respiratory health after the third year of life. We recommend longer follow-up.

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**ORGANIZATION OF HEALTH IN
THE INFORMATION AND STUDENT SUPPORT
OFFICE INTO THE RANGE OF THE HEALTH
PROMOTION AND SEXUAL EDUCATION
IN SCHOOLS**

Ramalho F., Brandao C., Bernardo M.

Background: In order to make the situation diagnosis, we chose to use a set of methods to systematize the information on the study camp of sexual education also in order to implement the health information office and student support. With this goal in our minds, we involved the educational community and gave priority to working peer, team workers and teachers since it's our believe that joint strategies can contribute significantly to an effective change of attitudes on the healthy development of young people.

Aim: Organize a Student Support Health Office in a Secondary school and define the priority areas of intervention.

Patients and methods: Patients: Students and parents from a secondary school.

Methods: For the analysis of data derived from surveys, we chose a quantitative and qualitative methodology (content analysis) showing the most significant emerging areas.

Results: Our results showed that 97,88% of students felt that is important the existence of the information office, 82,01% indicated as a reason for its frequency to find answers to their questions and 41,27% looked for information about infections sexually transmitted. To achieve our goal, we developed health education sessions to 305 students where we addressed the issues that stood out on this examination which were HIV, Sexuality and Contraceptive Methods.

Conclusion: The study's findings are related to the need to promote young people's health, preventing risk behaviors, and school health teams are essential on this role. The existence of a reference site for nursing care for students has proved highly importance in articulating partnership with the educational community in the intervention project on education and health promotion strictly appointed to students, playing an active role such as consultant in this area.

213 MEDICAL OCCUPATION GUIDANCE OF SCHOOLCHILDREN IN MODERN CONDITIONS

Rapoport I.

Background: Medical occupation guidance (MOG) is a system of measures to help adolescents choose a profession related to health. Nowadays in Russia there are more than 80% of senior students with chronic diseases and functional deviations which can progress under the influence of professional and industrial factors. School doctor's advice on students' choice of profession, college, university can promote health protection of young people.

Aim: Study of modern features of MOG in secondary and senior school

Patients and methods: It was carried out a medical examination of 189 pupils in grade 7 and 225 pupils in grades 9–11 in Moscow schools and also individual doctor's advice on professional choice.

Results: The studies showed that the number of senior pupils with vegetative-vascular and neuro-psychical disorders, eyesight disorders, allergic diseases had increased by 4–14% for 10 years. Because of these health disorders the adolescents had restrictions in the choice of modern professions associated with psycho-emotional tension, working on PC, visual tension, chemicals. At that time adolescents and their parents know too little about different professions. Pupils and their parents helping children in their professional choice do not take into account the unfavourable influence of industrial factors.

Conclusion: It is necessary to carry out a regular MOG among 12–15 aged adolescents at lessons and special lectures. It is advisably to introduce parents with different professions at parental meetings. It is necessary an individual medical consulting of pupils with health deviations in grades 9–11.

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PHYSICAL DEVELOPMENT OF HIGH SCHOOL STUDENTS IN REGULAR HIGH SCHOOLS AND LYCEUMS OF AN URBANIZED SIBERIAN CITY

Reshetnik L., Zaznobova T.

Background: Physical development of children is indicative of their health

Aim: Evaluate physical development of high school students in regular schools and lyceums.

Subjects and methods: An anthropometric study was conducted of 834 boys and girls aged 16–17 years old in one of Irkutsk's districts, using standard methods. Body height and weight indices were analyzed using deviation scales and z-test.

Results: 51,2% [44.5–57.9] of boys and 55.4% [48.5–62.3] of girls had harmonious physical development in regular schools, compared with 39,6% [33.0–46.2] of boys and 29,5% [23.3–35.7] of girls in lyceums ($p < 0,001$). 18,4% [13.5–23.9] of boys in lyceums were found to have low height, compared to 13,6% [9.3–18.5] of boys in regular schools, for girls this index amounted to 20,3% [15.1–26.0] and 6,4% [3.4–10.2] correspondingly ($p < 0,001$). 17,5% [12.7–22.9] of boys studying in lyceums were found to have weight deficit, compared to 8,5% [5.1–12.6] of boys going to regular schools, for girls this index amounted to 14,5% [10.0–19.6] (lyceums) and 6,4% [3.4–10.2] (regular schools) correspondingly. Schoolgirl's are more frequently overweight in lyceums – 19,3% [14.2–24.9] than in regular schools – 11,9% [7.8–16.7]. For boys, this index showed minor differences – 12,9% and 13,2% correspondingly.

Comparing similar mean growth values of 16-year-old boys obtained in 1971 showed that today's schoolboys are $3,01 \pm 0,57$ taller than their 1971 counterparts.

Conclusion: Teenagers attending lyceums with more intensive study process have worse physical development indices, which is caused by inevitable physical inactivity, improper feeding, and high psychological and emotional stress. The trend of physical development acceleration still persists in Irkutsk; however, high frequency of disharmonious physical development is indicative of its stabilization and beginning of the trend's extinction.

215
ASSESSMENT OF VACCINATION
COVERAGE IN BARCELOS HEALTH
CENTRE 2008–2009 (PORTUGAL)

Rodriguezblanco M.

Background: In Portugal, information posted on vaccination coverage of the population is sparse, so it is not well identified if there are pockets of populations with low immunization levels. Solving this question is essential if health services are made aware of the need to optimize resources and develop effective actions that aim at compliance with the vaccination plan.

Aim: To monitor vaccination coverage of reference population of the Barcelos Operational Unit of Public Health, in cohorts of age 2, 6 and 14 years and adults in general, using the same methodology of work over the past two years, prior to the reform of primary health care.

Patients and methods: A database in Microsoft Office Excel is built and coverage rates are calculated for age cohorts studied, considering the year of birth and for each of the first-line vaccines with the goal of achieving a value of 95%. Coverage rates obtained in 2008 and 2009 for each vaccine as defined in each age cohort according to the guidelines of the national plan are compared.

Results: For BCG (vaccine against tuberculosis), DTP 3 (third dose of combined vaccine against diphtheria, pertussis and tetanus), HIB (vaccine Haemophilus influenzae type b), VAP (pneumococcal-polysaccharide vaccine), VHB 3 (third dose of hepatitis B vaccine), MEN C (conjugate vaccine against meningococcal C) and MMR (triple vaccine against measles, mumps and rubella) vaccines, coverage ranged from 98–99% in cohort 2 years; as well as for DTP (combined vaccine against diphtheria, pertussis and tetanus), VIP (inactivated polio vaccine) and MMR vaccines for 6-year-old children; and for Td (combined vaccine against tetanus and diphtheria), MMR 4 (fourth dose) and VHB 3 vaccines for the 14-year-old group. In adults over 65 years, Td vaccine rate drops to 83,9% with geographical asymmetries in the two years evaluated.

Conclusion: National target of 95% vaccination coverage for younger age cohorts was achieved. However, coverage rate of tetanus in adults should be improved by the values and the differences found.

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MENTAL SYMPTOMS AMONG FINNISH STUDENTS WITH ASTHMA

Roennemaa A., Paajanen P., Huttunen T., Kunttu K.

Background: In Finland, 5–10% of adult population suffers from asthma. Asthma is a lung disease with airway inflammation and reversible airway obstruction, but many studies show that asthma patients also suffer from psychosomatic/psychic symptoms

Aim: The purpose of the study was to compare mental symptoms among asthmatic students with non-asthmatic students.

Patients and methods: Material and methods the data were collected by means of a postal questionnaire within the National Health Survey among Finnish University Students in 2008. The target group consisted of Finnish undergraduate university students under 35 years of age. The sample size was 9967 students (45% male). The response rate was 51%. The number of asthmatic students was 249. We compared the perceived health, the prevalence of general symptoms and mental symptoms of asthmatic students to those of non-asthma students

Results: Results Students with asthma perceived their health significantly worse than other students. Perceived health was moderate or poor in 29% asthmatics and 16% in other students. 88% of asthmatics had symptoms weekly or nearly daily, others 75%. There were no differences in experienced stress, happiness, depression, overstrain and negative perception concerning one's mood. There were also no differences in GHQ 12 questionnaire. Students with asthma had significantly more sleeping disturbances than others, 32% versus 25%. Female asthmatics had significantly more bullying experiences at school, during one or more years 29% versus 19% of other female students. Male asthmatics had a more negative perception concerning planning of future and own resources and capabilities.

Conclusion: Conclusions to find the most effective treatment for asthmatic patient it is important to understand the patient's overall condition. The key to successful treatment is to differentiate between the symptoms of asthma and mental problems.

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REFERRAL RATES FOR MULTIPLE GROWTH MEASUREMENTS IN CHILDREN

Roelants M., Hoppenbrouwers K., Hauspie R.

Background: In most European countries, infants and young children are measured frequently to monitor their growth and development. Growth reference charts are essential to assess the normality of growth. A common approach is to track consecutive measurements on cross sectional distance charts, which show the distribution of height or weight by age. This may be misleading since centile lines on cross-sectional distance charts do not represent individual growth curves and are not appropriate to evaluate the normality of changes in growth.

Aim: To estimate referral rates when children are measured on multiple occasions, and their growth is assessed using cross sectional charts.

Subjects and methods: A single follow-up measurement of stature and weight one year (interval 0.85–1.15 years) after the initial measurement in about 5500 children 3–18 years of age, and a longitudinal follow up of 900 newborns that were measured at regular intervals from birth to 3 years of age (up to 20 measurements). Both samples were taken from the Flemish Growth Survey 2001–2006.

Results: The number of children outside the normal range of the reference charts (length or weight $< -2.5SD$ or $> +2.5SD$) increases up to 25% for a single follow up measurement, and even more when growth is assessed on multiple occasions. We will compare these results with the proportion that is expected from the properties of growth distance charts. We will also discuss simple yet effective tools and rules to improve the evaluation of consecutive growth measurements.

Conclusion: Our findings confirm that the use of static criteria will lead to a high number of children that are referred. Instruments or referral rules adapted for this purpose should be used.

Acknowledgements: This study was supported by the Flemish Government, by order of the Minister of Public Health.

218 REGION-SPECIFIC CHARACTERISTICS OF TUBERCULOSIS IN YAKUTIA

Romanova M., Guliaeva N., Lineva Z.

Background: Region-specific characteristics of tuberculosis in Yakutia are a result of living under extreme climate, environmental, socio-epidemiological and living conditions, high virulence and growing drug-resistance of MTB, and high morbidity (24.8 – in 1007, 49.5 – in 2008, per 100 000 population) among preschool children.

Aim: The aim was to analyze medicosocial conditions in children with tuberculosis of peripheral lymph nodes from 3 different sociogeographical zones (arctic, industrial, agricultural).

Subjects and methods: 80 random case records of in-patient children were analyzed.

Results: In agricultural zone, 31,8% of children had both their parents unemployed, and 22,7% of children are raised by a single unemployed parent. In all of the zones, alcohol abuse by parents was seen in half of children, most of them having bad living conditions. More than 80% of newly diagnosed children with tuberculosis disease have concurrent pathologies; of them, one third belongs to patient category labeled as 'sickly children'. Tuberculosis of peripheral lymph nodes was concurrent with tonsillitis (30%) and bronchitis (20%) in industrial zone, bronchitis (38,4%) and trachea inflammation (15,4%) in arctic zone, and tonsillitis (31,8%) in agricultural zone. Contact with a contagious coughing person played a significant role. The course, character and stage of disease depended on exposure duration and bacterial count of the contact person. Rates of close family contact were 68,3% for agricultural, 69,2% for arctic and 50% for industrial zones. Late diagnosis of tuberculosis took place in 69,2% of cases in arctic zone and in 60% in industrial zone. Bilateral process was diagnosed in 90% of patients in industrial, in 76,9% in arctic, and in 27,2% in agricultural zones.

Conclusion: In conclusion, bad medicosocial conditions have an impact on diagnosis timeliness, disease course, complications, and disease outcome in preschool children with tuberculosis of peripheral lymph nodes living in different socio-geographical zones.

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**ANTISOCIAL FAMILY AND CHILDREN'S HOME
AS THE INITIAL CONDITIONS OF FORMATION
OF THE PHYSICAL DEVELOPMENT OF PUPILS
OF BOARDING SCHOOL**

Ryazantseva O., Kuznetsova T.

Background: Anthropometric indicators are markers of physical well-being of the child.

Aim: Comparative evaluation of weight and height indices (GRP) pupils of the school – boarding school, depending on the conditions of education at an early age.

Subjects and methods: The estimation of the GRP 176 children being cared for in a boarding school at the age of 7 to 17 years on a scale of Z-score. A norm accepted indicators included in the interval from -2 to $+2$. Given the history, children are divided into two groups: I – former students of the orphanage (13% – 23 children); II – children growing up in early childhood antisocial families (87% – 153 children). By age children were divided according to WHO criteria (2009). At the youthful age of GRP were not calculated because of small sample size.

Results: In terms of growth in children in group I at all ages correspond to the values of the general population without gender differences. In group II 25% of adolescent boys and 7% of adolescent girls have very low rates of growth.

In terms of the mass revealed no age or gender differences in the two comparative groups: Every 2-nd a teenage boy and every 5-me teenager has a score of Z-score weight of less than -2 .

Conclusion: The conditions of upbringing in antisocial families are more «rigid» deprivation, which determines the retardation of physical development, especially, growth that demonstrates the benefits of government boarding schools as compared with the upbringing of children in antisocial families. This growth is more often met in such families with the boys then with the girls.

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PSYCHOLOGICAL CHARACTERISTICS
AND COGNITIVE FUNCTIONING
IN ADOLESCENTS WITH ESSENTIAL
ARTERIAL HYPERTENSION

Sadykova D., Lutfullin I., Chilikina Y., Sergeeva E.

Background: Psychological characteristics and cognitive functioning in adolescents with essential arterial hypertension (EAH) are presented in abstract.

Aim: To study of psychological characteristics and cognitive functioning in adolescents with EAH

Subjects and methods: A cognitive functioning and a quality of life were studied in 101 adolescents with EAH. According to 24 hour ambulatory blood pressure monitoring the adolescents were divided into three groups: 32 patients with white coat hypertension (WCH), 33 adolescents with labile EAH and 36 with stable EAH. Also, 38 healthy adolescents formed a control group.

Results: According to the results of Stroop-color-word testing, it was estimated that adolescents with stable EAH had decreased cognitive functions compared to the control group, and specifically prolongation of Stroop-effect time (66,4 seconds in stable EAH, 45,4 seconds in control, $p < 0,05$). This indicates that the cognitive processes are «target function» of EAH in adolescents.

The quality of life was studied using MOS SF-36. Both patients with labile and stable EAH showed decreased physical component summary. Also, in labile EAH group mental component summary was significantly lower than in other groups.

Conclusion: It indicates that adolescents with labile and stabile variants of EAH have different role of psychological factors in EAH development.

221 HEALTH AND SCHOOL NUTRITION SERVICES BASED ON RIGHTS

Saez A.

Background: While undernutrition continues to be a major problem in developing countries, the problem of overweight and obesity have reached proportions global epidemic affecting both, developed countries and countries in developing.

To ensure the right to adequate food and to be free from hunger is a matter of international law, content in various human rights instruments to which countries around the world have committed themselves.

Aim: In agreement with the principle of effectiveness in relation to nutrition requires common policy options, like the Nutrition Friendly School Initiative (NFSI) developed as a recommendation from WHO in the Expert Meeting on Obesity in the Childhood (Kobe, June 20–24, 2005).

The NFSI main goal is to provide a framework for designing Nutrition and School Health Programmes with integrated interventions that deal with health problems associated with nutrition, interconnecting the work of agencies and organizations, such as: the FRESH Initiative (UNESCO), the Essential Package (UNICEF/WFP), the Friendly School for the Children Initiative (UNICEF), the Health Promotion in Schools (WHO), and Nutrition and Education Programs in Health School Services (FAO).

Patients and methods: Systematic Analysis Bibliographic Search with the MESH terms, and documents of international law civil, cultural, economic, political and social collection.

Results: Schools offer many opportunities, providing universal access of all children, promote healthy lifestyles through physical activity and food education and are also a point of potential access of parents and members of the community for the prevention of malnutrition in children.

Conclusion: Through targeting initiatives for improving school nutrition we shall improve the health and education.

Healthy nutrition should be an integral part of the daily life of school children and young people and contribute to its physiological, mental and social well-being. It is essential for the best achievement as nutrition affects intellectual development and learning ability.

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SCHOOL AND UNIVERSITY HEALTH AND MEDICINE SERVICES IN SPAIN

Saez A.

Background: At the beginning of XIXth century, the prevalent health problems were infectious diseases and limited resources, environmental problems, people's ignorance, poverty, and hunger. These led to an increased risk of epidemics that affected children in schools that determined the establishment of an inspection system for School Health Services

Aim: The aim is offer the Spanish experience of the School Health and Medicine Health Services.

Patients and methods: We use the historiográfico analysis method standing out the main historical and legislatives documents.

Results: We find three stages:

I. Initiation Period

On November 26th, 1838 appeared The Regulation of Schools about the «corporal hygiene», «the certificate of not to suffer contagious illness and to be vaccinated» and the first reference to «the corporal punishments».

The first School Medicine Service was established in 1878, being the first Medical School Inspector Dr. Don Ramón García Baeza (1878 to 1928), founding the first «Preschools».

II. Period of Development

The creation of the National Body for School Medical State's Inspection.

In 1930, begun the child preventive medical services for tuberculosis prevention, special education, health education for teachers. This is «golden age».

III. Modern period (1940–1975)

The school doctor worked with the school health school team. The School Medicine evolved into «school medical learning».

Conclusion: The responsibility of the School and Health Services changed from the prevention of the disease to the promotion of health, from individualized actions to collective actions, from controlling physical environment to controlling psycho-social factors, from health services and specialized team work to interdisciplinary and multi-sectorial team work.

The health promotion theory in schools lead:

1. The promotion of healthy lifestyles.
2. A healthy school environment.
3. Health and Nutrition Services.

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**SANITARY AND EPIDEMIOLOGICAL WELFARE
OF EDUCATIONAL INSTITUTIONS
AND REDUCTION OF «SCHOOL» RISK
FACTORS AS PRIORITY TASKS OF THE STATE
SANITARY AND EPIDEMIOLOGICAL SERVICE**

Safonkina S., Moldovanov V.

Background: The tendency of disease rate growth among students of comprehensive schools in Moscow has been remaining unchanged for the last two decades. The incidence of diseases (psychological frustration, vision and musculoskeletal system disorders, gastrointestinal diseases), essentially influenced by the educational process' conditions and organization, has been increasing. At the same time, the existing methodology of educational institutions' sanitary and epidemiological welfare evaluation requires perfection and development in order to define the most important parameters rendering negative influence on the students' health.

Aim: Perfection of comprehensive schools' sanitary and epidemiological welfare control methods in order to prevent the health risk for students.

Subjects and methods: The internal environment of Moscow comprehensive educational institutions was evaluated at the first stage of work.

Results: It was established, that microclimate parameters did not meet the hygienic requirements in 16,0% of the inspected institutions, the same for a rtificial illumination intensity levels in 16,0% of institutions, noise levels – in 8% of institutions. The furniture does not fit the height of children in 15% of institutions. Almost half of the institutions (48%) refer to the second group of sanitary and epidemiological welfare, 1% – to the third group, which reveals the discrepancy of intraschool environment parameters with all the requirements of operating sanitary and epidemiological rules and the presence of inherent risk factors.

Conclusion: In the subsequent it is necessary defining priority ill-being factors influencing the school-age children's health formation; development of the scientifically-based suggestions for perfection of educational institutions' sanitary epidemiological welfare evaluation, taking into account the proven health risk for students.

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SCHOOL BURNOUT IN SOCIAL CONTEXT

Salmelaaro K.

Background: Finnish students succeed well in academic achievement but then burnout. School burnout is defined along three dimensions: exhaustion due to school demands, cynical and detached attitude towards one's school, and feelings of inadequacy as a student.

Aim: The present study examines the role of social context (peers, teachers, parents) and the school context for school burnout. The present three-wave longitudinal study conducted in Finland examines changes in school burnout during transition from comprehensive school to education tracks and social factors influencing school burnout.

Patients and methods: The participants were ninth-graders (median age 15) facing the transition to post-comprehensive schooling ($n = 611$) who filled in the new School Burnout Inventory three times during the transition.

Results: The results showed that school burnout increased at academic track, while it decreased at vocational track. Three social contexts, teachers, parents and peers influenced on adolescent's school burnout. Teachers' positive motivation buffered school burnout, while peers school burnout seemed to influence on adolescent's school burnout. Parents and adolescents burnout was shared in the family.

Conclusion: All three social contexts, peers, parents and school plays a key role in school burnout.

225 STUDY BURNOUT AND ENGAGEMENT AT HIGHER EDUCATION

Salmelaaro K., Kunttu K.

Background: Studying in higher education is demanding and thus many students suffer from burnout.

Aim: This study introduces a measure for burnout among students at higher education (Study Burnout Inventory – Higher Education, SBI-HE) and study engagement both at universities and polytechnics, and examines their validity and reliability by using confirmatory factor analysis among a large representative sample of students from higher education. Study burnout comprises three dimensions: (1) exhaustion at studying, (2) cynicism toward the meaning of studying, and (3) sense of inadequacy as a student. Study engagement is defined as energy, dedication and absorption towards studying.

Patients and methods: A total of 5093 (2746 university students, 2347 polytechnic students; 3183 women, 1837 men) filled in a questionnaire concerning their study burnout, study engagement, psychological symptoms and background variables.

Results: The results showed that the three factor solution for study burnout at higher education fitted the data best. Consequently, study burnout at higher education can be measured as three positively correlated factors, or as a summary score measuring overall study burnout at higher education. The more psychological symptoms, the more study burnout, and the lower their study engagement the more cynicism and inadequacy towards their studies students reported. The results showed that women at higher education suffered more from exhaustion and inadequacy towards their studies than men. Finally, study burnout increased, while study engagement decreased, during the studies at higher education.

Conclusion: Study burnout and engagement are important among students in higher education. In the future ways to promote engagement and prevent burnout among students in higher education needs to be developed.

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**THE IDIOPATHIC CHRONIC FATIGUE
OF SCHOOLCHILDREN. IS IT A CHRONIC
FATIGUE SYNDROME OR A RISK
OF ITS DEVELOPMENT?**

Sanakoeva L., Matveeva S.

Background: In foreign literature there are a great number of publications concerning the results of chronic fatigue syndrome (CFS) defining among different groups of people, including children and teenagers. As for this problem, in Russia we have only several editions referring to adult patients. The research which is aimed at detecting CFS among schoolchildren has not been conducted.

Aim: The purpose of this paper is to study how spread the fatigue among 12–16 years schoolchildren is in accordance with international criteria for CFS and to define the factors of its development.

Patients and methods: 1030 12–16 year-old schoolchildren were involved in one-stage epidemiological study. They studied at 3 Perm schools with different educational programs. 6 months later 145 schoolchildren with chronic fatigue underwent examination again what helped us reveal children with idiopathic chronic fatigue (ICF) remaining for a long time. The last based the main group (45 schoolchildren, the age $13,9 \pm 0,1$ year). The control group consisted of 25 practically healthy schoolchildren not complaining of fatigue (the age $13,7 \pm 0,2$ years, $p = 0,161$) who studied at the same educational establishments. The questionnaire survey was conducted with a special form (Matveeva S. K., 2004) which was based on international diagnostic criteria for CFS (1988, 1991).

Results: Thus, 4,4% of 12–16 year-old schoolchildren were diagnosed with ICF according to international diagnostic criteria for CFS. At the same time all children had basic criteria for CFS and 80% of them – additional. Possible risk factors of ICF development among schoolchildren are: perinatal period followed by many diseases which can lead to child pathology, high rate of infection-related diseases, sleep problem, low level of education within the family. ICF does not depend on sex of children and educational programs.

Conclusion: Taking into consideration nosotropic factors of CFS development, we can suppose that ICF signals further development of CFS.

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HYGIENIC ASSESSMENT OF DAILY REGIME AT SCHOOL OF FULL TIME

Sedova A.

Background: The intensification of learning, the increase of educational loads, the enlargement of additional educational services lead to children's overloads. It inhibits to adhere a daily regime – sleep duration, outdoor staying and physical activity decrease. In this connection one of school activities in the field of preservation and strengthening of student health is the optimization of their motor performance.

Aim: To justify the hygienic rationality of the innovative schedule in school conditions of full time.

Patients and methods: During the lessons we estimated the mental capacity (MC) of pupils in grades 1–4.

Results: The innovative approach to the organization of education means a random distribution of lessons during the whole day. The part of lessons of the first half of day was transferred into the second half after the break. Moreover, additional lessons with motive component (rhythmic, sport games) were brought in the schedule of the first half for the prevention of fatigue.

The comparative analysis of pupils' MC during the transition to the new regime of learning and their counterparts with traditional learning showed that the indicator of MC had been twice higher in schoolchildren of group I. Herewith, they had cases of overfatigue 1,8 times less. The study of the level of neurotization and distribution of daily budget of time did not reduce the authentic distinctions in both examined groups.

Conclusion: The studies showed that one of the methods of decreasing of the tiring influence of educational loads on student body was a random distribution of the load during a day on the background of the increase of physical activity.

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PSYCHO PHYSIOLOGICAL ESTIMATION OF STUDENT

Semenova V. , Krasheninina G. , Ryabuhin V.

Background: The interest to the studentship is increasing during recent decades, because it's the most significant factor of the future of any country.

Patients and methods: One hundred of fourth course student o of the allied health faculty of medical university were examined. The condition of higher nervous activity was examined

with the methods of memory defining (the test of Bourdon, the tests of Platonova – Shulte) nervous system lability (tapping – test). Such physiological parameters were defined: nutritional status, the Shtange test, the Martine test, muscle strength, static charge tolerance.

Morbidity, physical activity, bad habits, living conditions was researched with questionnaire survey.

Results: The general characteristics of the contingent researched showed that

67,2% of students live with family, 15% live in the dormitory, 17,8% rent flats. 20% of students practice sport regularly, 19,4% have bad habits, 59% have chronic illnesses.

The results of the research of short – term memory and long – term memory show us that 83% of students have good memory and the rest of them have a satisfactory one.

It was revealed that among student with chronic illnesses and among the smoking ones the memory indices were lower.

It was established that 70,5% of students have a good ability to attention concentration and attention switch. Only a small part of them – 29,5% have cut concentration ability. It was revealed that girls have a better ability to concentration and attention switch. It was registered that students with bad habits have lower ability to concentration and attention switch.

While researching of nervous lability it was noticed that 50% have a high level of it, 20% have the average one and 30% have a low level.

The research of reaction of heart – vascular system on stress revealed the adequate reaction of 75% of students. There were people without bad habits and practicing the sports regularly.

The Shtange test measures were defined as normal among all the persons under the test.

66% of the testees have the usual nutritional status.

Conclusion: In the results of the research some psycho physiological characteristics of modern student were obtained and their connection with state of health, mode of life, gender was established.

This information allows us to draw psycho physiological portrait of average student. This is a student with usual nutritional status, muscle strength referring to his age, good level of attention and memory and concentration of attention, whose heart – vascular system has an adequate reaction on physical activity.

Further individual recreation activities, uprooting of bad habits and implementing of keeping fit will facilitate the optimization of educational process and training of specialist.

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**INTEGRATED CRITERIA AND EVALUATION
SCALES FOR CHILD AND ADOLESCENT HEALTH
CONDITION: METHODOLOGY OF USE
FOR HYGIENIC DIAGNOSIS IMPROVEMENT**

Serheta I., Mostova O., Osadchuk N., Serheta D.

Background: Implementation of a comprehensive health assessment of children and adolescents is one of the most controversial issues of modern preventive medicine, causing a need for a system approach, an objective quantitative and qualitative assessment of health of schoolchildren.

Aim: The aim of the study was to develop a methodology for the determination and adequate use of hygienic practical scales for expert point scoring and integrated measures of health status in children and adolescents.

Patients and methods: To realize the main objective of the study it was used a complex of modern hygienic, psycho-physiological, psychological, epidemiological and statistical methods.

Results: In the course of studies there was designed and scientifically based a set of integrated indicators for adequate assessment of functional status and health status of children and adolescents. These include such indicators as Index of Psychophysiological Adaptation, Express Index for Stress Indication, Index of Behavioral Wellness, and criteria of psychophysiological and psychological adaptation, complex index of harmonious physical development. Important place in the structure of the proposed individualized approach takes a number of evaluation scales of health of children and adolescents organism, in particular techniques of complex hygienic evaluation of the features of prenosological disorders of the visual sensory system, the screening risk assessment of prenosological abnormalities in the mental health of students puberty, complex scale of risk of disease, sexually transmitted infections among young people, determine the extent of the risk of abnormalities in the morpho-functional condition of newborns

Conclusion: The methodical approach to implementing an integrated assessment of child and adolescent health provides an opportunity to implement an adequate predictive assessment of the prospects of development of the growing organism, to identify the main laws of formation of its functional systems and adaptive resources.

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THE ROLE OF HEALTH-TECHNOLOGY
IN SHAPING THE HEALTH
OF HIGH SCHOOL STUDENTS ENROLLED
IN THE AUTHOR'S PROGRAM

Setko N., Bolycheva Y., Lozinsky A.

Background: Gymnasium training has become widely used copyrights courses such as educational and developmental programs L.V.Zankov and M. Montessori. As a result, increases the physiological cost of education.

Aim: In this context, we substantiated school health training for the program authors.

Subjects and methods: we studied functional state of central nerve system and efficiency of children using variation chronoreflexometry (Moroz M. P., 2003); cardiovascular system and adaptative reserve resources of children organism by the method of variational pulsometry.

Results: Therefore, we analyzed to studyeffect of the initial state of functional systems and psychological characteristics of first-graders on the success of education and health status of high school students in subsequent years of training. Thus, we proposed to use as a psycho-physiological selection criteria for children learning to program L. V. Zankov with the level of mental capacity in the range of $1,5 \pm 0,05$ conventional units, the index of voltage 70–120 conv, normal levels of anxiety and high motivation for learning activities. On admission of children to school, use the Montessori mental performance of first-graders should be in the range $0,8 \pm 0,03$ conv, strain index no more than 180–230 conventional units, the average level of motivation for learning activities and allowed heightened level of anxiety. In addition to school, use the L. V. Zankov introduced a range of health-technology for the prevention of inactivity and physiological fatigue and exhaustion.

Conclusion: Thus, the correct selection of children for admission to high school with a variety of teaching methodologies in conjunction with health saving technology allows you to save and improve the health of pupils in conditions of intense mental pressures of a modern upper secondary school education.

231 MICROELEMENT STRUCTURE OF THE SCHOOL FOOD ALLOWANCE COUNTRYSIDE STUDENTS

Setko A., Chistyakova E., Trishina S.

Background: The countryside students' diet was developed according to the established norms and standards and regional specifics. It was made within the project «School Food» for optimization of catering services in educational institutions of the Orenburg region.

Aim: The goal of research was studying microelement's structure of two student's diets before (1) and after (2) the introduction of the project in 5 educational institutions of the Orenburg countryside region.

Patients and methods: The research was made by the analysis of the 10-day menu using tables of a chemical food compound. (Tuteljan V.A., Skurihin I.M., 2007).

Results: In diet 1 the zinc consumption level was 20,9% lower than physiological norm for schoolchildren of 7–11 years old, 34,1% lower for students of 12–14 and 15–17 years old. In diet 2 a deficiency of zinc was: 47,1% of norm for children of 7–11 years old, 39,2% of norm for schoolchildren of 12–14 and 15–17 years old. Iodine consumption was 60,0–69,6% lower than norm. Level of copper consumption exceeded physiological norm 3 times in diet 1 and in 2,2 times – in diet 2.

In diet 1 selenium consumption was superfluous on 87,3%, 47,1% and 14,4% for younger schoolchildren, average and senior school age; in diet 2 surplus of selenium was 60,9% and 26,4% for students of 7–11 and 12–14 years old accordingly.

Level of chrome consumption in diet 1 exceeded the norm average 2,8 times, in diet 2 in 2,1 times.

Conclusion: Thus, the countryside student's meal isn't balanced upon the basic microelements' content. That demands its correction considering the revealed infringements.

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**MODERN HEALTH-SAVING TECHNOLOGIES —
A BASE FOR HEALTH PROTECTION
OF CHILDREN IN INNOVATIVE EDUCATIONAL
ORGANIZATIONS**

Setko N., Karimova L., Valova A.

Background: The most important object of the present day education is not only to provide children with necessary level of knowledge but also to form certain stable level of functioning of their organism and its physiological systems making possible to preserve health.

Aim: to find out new approaches of education, to introduce new advanced technologies for supporting health-saving space in educational establishments

Patients and methods: We studied functional state of central nerve system and efficiency of children using variation chronoreflexometry; cardiovascular system and adaptative reserve resources of children organism by the method of variational pulsometry, as well as the level of anxiety by the questionnaire by Philips (1978), imagebearing and visual thinking, memory, attention, type of nervous system.

Results: It was validated by the increase of children by the end of the 4th form with satisfactory adaptation by 22,9%; by 23,6% — pupils with normal state of regulative systems; by 25,8% — pupils with sufficient functional resources. The four-year use of health-saving system in children of experimental group has been contributed to the number growth of preschool children with a high level of memory 2,5 times more attention — 3,3 times more, visual thinking — 10 times more. At the same time with comparison with data of control group the number of pupils with school anxiety has been reduced by 21,1%; mental faculties and rate of handling have been went up 36,5% and 39,1%, respectively.

Conclusion: Thus, introducing of educational complex of health-saving technologies in educational organization during four years has been favoured for preservation and strengthening of health and increase of adaptation.

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**DIFFERENTIATED APPROACH
TO THE INTRODUCTION OF HEALTH-
TECHNOLOGY DEPENDING ON THE MATURITY
OF THE SCHOOL FIRST-GRADERS-HIGH
SCHOOL STUDENTS**

Setko N., Lozinsky A., Bolycheva Y.

Background: At first graders to form a health-education space environment plays an important role accounting source of health, with whom the child enters first grade, namely the willingness to learn on the medical and psychophysiological parameters.

Aim: In this regard, the aim of our study was to investigate the maturity of the school first-graders and their role in the formation of functional capabilities and adaptation of an organism of pupils in the gymnasium conditions of teaching.

Patients and methods: In 54 high school students evaluated the school maturity, according to the level where first-graders were divided into three groups: group 1 (11 children) – students are ready for school, group 2 (29 children) – «conditionally ready» and group 3 (14 children) – first graders are not ready to systematic training. Do high school students assessed the functional state of the major body systems, the level of reserve capacity and biological adaptation in the dynamics of the school year.

Results: Established that during the school year is more favorable dynamics of the functional status of the major body systems and biological adaptation is defined among the first graders, that when entering the school were ready for school (group 1) than among first-graders conventionally finished (group 2) and are not ready (group 3) for systematic training. Based on these results, we have developed different sets of health-technology based on the level of readiness to learn.

Conclusion: It is established that a differentiated approach to the introduction of sanitary measures is the best system to preserve and promote the health of first-graders-high school students, as evidenced by the favorable flow dynamics of biological and psychosocial adaptation in children in the educational process in place which are adapted complexes school health, compared with children who have in my training school health general nature.

234 COMPARATIVE CHARACTERISTICS OF PHYSICAL DEVELOPMENT OF SCHOOLCHILDREN AND GRAMMAR- SCHOOLCHILDREN OF INDUSTRIAL CITY

**Setko A., Mokeeva M., Trishina S., Chistyakova E.,
Kuznetsova E.**

Background: Children's health is formed by a complex combination of factors of internal and external environment. Health protection should be based on a complex assessment of its level. Physical development is one of the direct indicators of health status, which is an integral characteristic of the growing organism (I. M. Vorontsov, 1984, G.N. Serdyukovskaya, 1991).

Aim: The purpose of investigation was to study the level of physical development and harmony of schoolchildren and grammar-schoolchildren of industrial city.

Patients and methods: Somatometric indicators of physical development (height, weight and circumference of chest) of schoolchildren (600 children) and grammar-schoolchildren (100 children) aged 7–11 years in 1996 and 2009 were studied.

Results: It was found that in comparison to studies conducted in 1996 the height of schoolchildren significantly increased by 6,3% (from $131,7 \pm 1,6$ cm to $140,0 \pm 0,01$ cm ($p < 0,05$)) and the height of grammar-schoolchildren significantly increased by 3,9% (from $133,1 \pm 1,5$ cm to $138,3 \pm 0,01$ cm ($p < 0,05$)). Increased body weight of schoolchildren by 21,1% (from $29,4 \pm 1,58$ kg to $35,6 \pm 0,7$ kg ($p < 0,05$)) and grammar-schoolchildren by 5,5% (from $30,7 \pm 1,3$ kg to $32,4 \pm 0,98$ kg) was revealed. Circumference of the chest was increased at schoolchildren by 4,4% (from $63,5 \pm 1,66$ cm to $66,3 \pm 0,94$ cm) and at grammar-schoolchildren by 2% (from $63,9 \pm 1,16$ cm to $65,2 \pm 1,09$ cm).

Percentage of students with a harmonious physical development has increased in 2009 at schoolchildren and grammar-schoolchildren. The proportion of children with harmonious development in 1996 was higher among schoolchildren (49,8%) than among grammar-schoolchildren (47,9%). In 2009 the harmonious development had 86,6% of schoolchildren and 100% of grammar-schoolchildren.

Conclusion: Thus, despite the high level of anthropogenic load the phenomenon of acceleration was found in this study.

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SOME FEATURES OF THE PHYSICAL DEVELOPMENT OF STUDENTS OF MEDICAL

Setko A., Ponomareva S., Trishina S.

Background: Nutrition has a direct and decisive influence on health, physical and neuro-psychological development and determines the nutritional status. Physical development is one of indicators of nutritional status.

Aim: The purpose of investigation was to estimate students' physical development.

Patients and methods: Physical development was assessed by centile method for physiometric (vital capacity (VC), muscle strength of wrist) and somatometric (height, body weight) parameters.

Results: It was established that satisfactory parameters of VC had 53,3% of boys and 49,6% of girls, respectively. Good parameters had 16,7% of boys and 21,7% of girls. Unsatisfactory parameters were identified in 30% of boys and 28,7% of girls.

Good parameters of carpal dynamometry had 66,7% (left arm) and 56,7%, (right arm) of boys, Girls' results were 36,7% on the left hand, 74,3% on the right hand. Excellent dynamometry of right hand had 26,6% of boys, that was by 5,9% more than girls had, whereas girls' parameters of left hand (63,3%) were higher by 30% than boys'. Satisfactory indicators of right hand were indentified in 16,7% of boys and 4,9% of girls.

Estimation of physical development established that 76,6% of boys and 66,3% of girls had harmonious physical development. The proportion of students, having disharmonious and sharply disharmonious development, amounted among boys to 10% and 13,3% respectively and among girls 20,8% and 12,9% respectively.

Among the students with a harmonious physical development the average level was recorded in 21,7% of boys and 5,9% of girls. Among boys the level of development below the average (26,1%) and among girls the level above the average (43,5%) dominated. Physical development of low and below-average level was revealed at 7,4% and 14,9% girls, respectively.

Conclusion: Estimation of physical development of students of medical school showed that about a third of students have deviations in physical development. Irrational and inadequate nutrition may be one of the reasons of that.

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THE SCHOOL OF DIETARY
FOR CHILDREN AND ADOLESCENTS
WITH IMPAIRED FAT METABOLISM

Shadrin S., Statova A.

Background: The history of creation of educational programs for patients with different chronic diseases extends back over 10 years in Russia. There is a vast experience of education of patients with different diseases (diabetes, bronchial asthma, coronary heart disease etc.) at schools. Educational program is new informative motivational technologies contributing towards improvement of treatment rates and forming patient motivation of health care. Nowadays teaching of patients with chronic diseases is a developed scientific and practical sphere of medicine. Obesity is considered to be not merely a fatty tissue redundancy but a chronic recurrent disease closely connected with a number of complications. Only understanding of the disease problem, independent decision-making of weight-reducing treatment and willingness to change lifestyle will let doctors and patients achieve the desired results.

Aim: Preparation and carrying-out an educational program for children with impaired fat metabolism for the improvement of effectiveness of weight-reducing treatment.

Subjects and methods: We have prepared and carried out the educational program for patients with overweight and obesity which includes 5 lessons for 1,5–2 hours once a week.

Results: During the lesson we discuss the following questions: what is obesity, what is the reason of obesity progress, why is obesity dangerous, the notion of energy balance, the main components of food, formation of dietary habits and their influence on obesity progress, the role of physical activity in weight-reducing treatment.

Conclusion: Taking into account environmental factors of the present day, such as sedentary lifestyle and energy food addiction leading to progression and recurring of obesity, it is necessary to provide nutritional education not only in the family, but also at school as a prevention of incidence rate of this pathology. So it is a vital need for having social medical educational programs for delimitation of epidemy of obesity among children.

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DESCRIPTION OF NUTRITIONAL STATE AND FOOD RATION IN TEENAGERS

Shakirova L., Haybullin V., Generalova E.

Background: The conception of balanced feeding supposes obligatory inclusion in ration of main necessary nutrients in appointed ratio – proteins, fats, carbohydrates, as well as vitamins, minerals, microelements and water accordingly age physiological needs. Organism in adolescent age needs particularly in sufficient intake of all nutrients for further growth and development.

Aim: Our aim was to investigate nutritional state and food ration in teenagers.

Subjects and methods: We have analyzed parameters of the physical development of teenagers – 120 students 1 course (age was 18 years, 52 boys and 68 girls). Daily food rations and expenditure of energy were studied in 30 teenagers by method of random sample and questioning.

Results: Indices of physical development corresponded with age standards in 62 cases – 51,7%. In 56 teenagers (46,7%), including 22 boys (42,3%) and 40 girls (58,8%), deficiency of body weight has been revealed, mild degree generally. But in 3 cases (2,5%) decay of nutritional status reached III degree. Excess of body weight was observed only in 1 student (0,8%).

Results of questioning have shown that breach of eating [dietary] pattern is the most frequent defect of nutritional supply in teenagers. Calculation of daily expenditures of energy (2381 kkal) excess on 11,9% (the standard – 2000 kkal) has revealed. At analysis of average daily food ration imbalance and deficit of main nutrients, deficiency in minerals, microelements and vitamins (excepting vitamin C) has been revealed. The most significant was deficit of proteins (55,4 gm at standard 61 gm), particularly animal protein (17,2 gm at standard 34 gm).

Conclusion: Thereby, alimentary status of each second teenager practically did not correspond to the age standard of the physical development that at increased power inputs, as well as at unbalanced and deficient of average daily food ration can lead to, in a further, to frustration of adaptive possibilities of organism and worsening of health level.

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PHYSICAL DEVELOPMENT AND PHYSICAL READINESS OF SCHOOLCHILDREN

Shishova A., Zhdanova L.

Background: Physical development (PD) and physical readiness (PR) are the objective indices of children health status.

Aim: PD and PR of pupils in the enrollment into primary school and in the transition to the beginning of various disciplines studying are characterized.

Patients and methods: PD and PR evaluation in first form pupils (207 persons) and in fifth form pupils (220 persons) was made by using of our own regional standards. PD was evaluated by sigmal deviations. In PR determination we examined speed, force, speed-force qualities, endurance, hand muscles force, vital capacity.

Results: PD schoolchildren were characterized by high frequency of its disharmony. 9,9% of first form pupils and 4% of fifth form pupils were of large stature. Physical development harmony was broken in 35,2% of first form pupils and in 27% of fifth form pupils. In first form pupils we revealed deficiency body mass in 23% of them, in 18,9% — of fifth form pupil's excess body mass.

Heterochronia of PR qualities development was revealed in the most part of schoolchildren. The number of children who had average level in separate tests ranged from 53,9 to 80,3% in first form pupils and from 49,1 to 79,4% in fifth form pupils. Only 14,5% of first form pupils and 13% of fifth form pupils had the average level of all PR qualities. Heterochronia in which in one pupil a part of indices was higher, a part of indices was corresponded to and a part of indices was lower than age standards was revealed in 40% of first form pupils and 19% of fifth form pupils.

In the whole nearly 90% schoolchildren had disharmonic combination of PD and PR.

Conclusion: High frequency of PD disharmony and PR indices heterochronia in schoolchildren dictated the necessity of their medical-and-pedagogic accompaniment in educational process.

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**SUBSTANTIATION OF SCHOOLCHILDREN
MEDICAL-AND-PEDAGOGICAL
ACCOMPANIMENT WITH REGARD
FOR HETEROCHRONIA OF THEIR
DEVELOPMENT**

Shishova A., Zhdanova L.

Background: Due to deterioration of schoolchildren health status the search for the new approaches to preventive and rehabilitative measures which should be integrated into educational process became especially actual.

Aim: Program for schoolchildren medical-and-pedagogical accompaniment is substantiated.

Patients and methods: Individual analysis of physical and intellectual development, physical readiness, social adaptation, morbidity and their correlation in first form pupils (207 persons) and in fifth form pupils (220 persons) is made.

Patients and methods: Schoolchildren physical development was characterized by high frequency of its disharmony: in 1/3 of the pupils it was presented by body mass deviations; first form pupils more frequently had body mass deficiency and fifth form pupils more frequently had body mass excess. Heterochronia of physical readiness qualities development so as disharmonic combination of the index levels of physical development and physical readiness were marked in the most part of schoolchildren.

Average level of intellectual development was noted in 72,1% of first form pupils and in 69,4% of fifth form pupils. Disharmonic combination of intellectual and physical development was also marked in almost 50% of schoolchildren.

Health status deterioration which was frequently revealed in disharmonic development was followed by poor progress and psychological problems at school. In each fifth child health status disorders appeared even in successful adaptation to school factors and only 1/3 of children demonstrated successful adaptation without health deterioration.

Conclusion: High frequency of heterochronia of schoolchildren development in combination with health & social adaptation disorders determined the content of the program for medical-and-pedagogical accompaniment of children in educational institutions including automatized monitoring.

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OCCUPATION GUIDANCE AS AN IMPORTANT FACTOR OF SOCIAL PSYCHOLOGICAL ADAPTATION OF COLLEGE STUDENTS

Shubochkina J., Ibragimova J.

Background: In modern social-economical conditions employers demand higher requirements for quality of training of college leavers, their ability to social-labour adaptation. It is linked with adequate professional choice

Aim: To study the influence of the formation of professional self-determination on the social psychological adaptation, academic successfulness, students' health.

Patients and methods: The students adopting popular professions were examined. 668 students were interviewed. The reasons of professional choice, success in theoretical and practical training, life style, health indicators, social psychological adaptation, attitude to learning, students' plans were estimated.

Results: The reasons of professional choice were the following: 48,2% – an interest to profession, 28% – relatives' advice, 15% – a wish to work, more than 20% – were at a loss to answer. On this background by the end of the first year of learning 75% of students answered that they liked the adopted profession. Their number was 48% in the third year.

The adequate professional choice to students' interests positively influenced on the motivation to learning. Average scores in theoretical and especially practical subjects were always higher in students who liked the adopted profession. They also more often positively estimated the organization of learning and were more often sure that they would find a job. The learning under inadequate choice was more often (in 1,8 times) accompanied by bad mood, fatigue; the number of students with acute respiratory disease was in 1,6 times more. Adolescents with delayed professional self-determination had lower indicators of social adaptation and risk of episodic drug use 2,2 times higher.

Conclusion: The adequate professional self-determination creates the basis for successful adaptation in profession and health protection. The formation of professional self-determination in school must forego the stage of choice of professional educational institution.

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WHAT'S LOVE GOT TO DO WITH IT?

Sikirica I., Petricevic N.

Background: Problem of teen dating violence is under-explored in Croatia.

Aim: To explore occurrence of teen dating violence.

Patients and methods: Anonymous questionnaire was completed by 316 fourth grade high school students (123 boys and 193 girls), 130 students from mathematics high school, and 186 from economics high school in Split, Croatia.

Results: Most of the surveyed students (80,1% boys and 92,2% girls) have already been in emotional relationship. They consider physical and sexual violence more as a violent behavior, rather than controlling behavior, jealousy or verbal abuse. Experience of some kind of violent behavior had reported 12,7% boys and 22,4% girls from mathematics school, and 46,7% boys and 28,6% girls from economics high school. More economics students than mathematics were victims as well as perpetrators. Half of abused girls in economics high school experienced verbal abuse, whereas 66,7% abused girls in mathematics school experienced emotional violence. In most cases boys in both schools experienced physical violence (slapping). Most boys in economics school reported being physically violent (54,5%), and in mathematics school verbally (85,7%). Girls are in most cases verbally aggressive. Over 50% of all participants ended relationship after violent behavior of a partner. Boys (35% in economics and 25,4% in mathematics school) considered normal to threaten with ending the relationship if partner refuses sexual intercourse. Around 30% of boys think that there is a reason for use of violence in particular situations.

Conclusion: Young people in most cases don't recognize some kinds of violent behaviours as violence. Lack of awareness of violent behavior, and belief that some forms of violence are normal behavior, make young people tolerant to violence, and make them stay in risky relationship. There is need to educate them how to recognize, and prevent teen dating violence.

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NEW TECHNOLOGIES OF CHILD HEALTH PROTECTION IN CONDITIONS OF SIBERIA

Sklyanova N., Kushnerenko E., Motyko A.

Background: Annual influenza and acute respiratory infections (ARI) morbidity in children of Novosibirsk is fairly high, affected by seasonal fluctuations and complicated by the living conditions on the territory of megapolis.

Aim: Evaluation of clinical effectiveness of the ARI prevention with the use of full volumetric nasal cavity lavage and gargling of the throat by the «Dolphin» mineral and herbal solution.

Patients and methods: 2905 children at the age from 3 to 17 (519 preschoolers attending kindergartens, 2386 schoolchildren), frequently affected by the ARI with somatic and ENT-abnormalities, without signs of ARI on the moment of research, who did the irrigational preventive measures in autumn-winter-fall period. Control group includes somatically healthy children using traditional preventive measures.

Study on the morbidity in children from research groups was conducted for the period from November 2009 to April 2010; changing of their morbidity nature in comparison with the previous testing period; dynamics of the morbidity in children, non-inoculated against the seasonal influenza, inoculated against the seasonal influenza, non-inoculated against the seasonal influenza depending on elimination preventive measures.

Results: The ARI morbidity level in children within organized groups, in the unfavorable epidemiological period receiving «Dolphin» preventive measures decreased 4 times in comparison with indices of the last academic year in the same period of the previous academic year. Positive influence of the «Dolphin» complex on the present ENT-abnormality and asthma; reduction of ARI complicated by sinusitis, adenoiditis and otitis.

Development of practical recommendations for supervisors, teachers and health professionals from educational institutions on the influenza, ARI, chronic respiratory diseases prevention in organized children groups has been done.

Conclusion: Preventive measures for ARI among children of pre- and school age using the nasal cavity lavage with the «Dolphin» mineral and herbal solution has shown high clinical efficacy. The results obtained and the lack of reported side effects allows recommendi

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HYGIENIC ASSESSMENT OF PHYSICAL HEALTH OF CADET CORPS STUDENTS

Soloviev M., Stasenko L., Kabanets L., Kolesnik O.

Background: Nowadays fitness for military service in the Armed Forces of Russia does not exceed 50–70%.

Cadet educational institutions play a positive role in the military training and professional development of students.

Patients and methods: Schooling and training in educational institutions of new type that form a state of chronic stress are important health risks for children.

Comparative assessment of students' physical health indicators in secondary schools and Cadet Corps has been conducted. The main target of the research was Cadets of 6–11 forms; experimental group consists of boys – peers that are students in the gymnasium.

Physical health has been studied according to pathological prevalence on the basis of the giving results of medical examinations, data for chronic diseases and functional disorders in students of both groups.

Results: Cadets' physical health indicators have been more favorable in comparison with schoolchildren. Schoolchildren have showed 1.5 times higher level of pathological prevalence, significantly more frequent disorders of respiratory, nervous and cardiovascular systems. Cadets' disorders of musculoskeletal system have taken the first place (45,2%).

Conclusion: Cadets have flat feet 2,7 times more frequent than schoolchildren. It requires the regulation of drilling loads.

In general, the level of cadets' physical health has been higher than that of schoolchildren.

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HEALTH CONDITION OF CHILDREN VISITING EDUCATIONAL ESTABLISHMENTS

Sleptsova N., Savvina N., Egorova V., Stepanova L.

Background: Last years to main school-caused risk factors of schoolchildren health formation first of all, concern low level of sanitary and epidemiologic situation in educational establishments, a defective feed, non-observance of hygienic specifications of study and rest mode, a dream and stay on air.

Aim: The most aggressive factors which influence to schoolchildren health formation are big volume of educational program, an intensification of training process.

Patients and methods: According to treatment-and-prophylactic establishment's datas, the number educational school in Yakutsk is 54.35819 children and teenagers in the age of 7 till 17 years are visit schools.

Results: The number of educational schools having medical equipped according to specifications has made 45 (83,3%): with quantity of pupils up to 600 person – 31 school; with quantity of pupils from 600–1200 – 18; more than 1200 pupils – 5.

Scope of schoolchildren by routine inspections in established terms under the plan for 2010 is 18783 (98,8%).

Distribution on health groups: I-st health group – 1921 (10,2%), II-d group – 13423 (71,4%), III-d group – 3120 (16,6%), IV-th group – 317 (1,6%), V-th group – 2 (0,01%).

The structure of children diseases does not change for the last few years. Still, on the first place the respiratory system diseases – 350,9 on 1000 children. On the second place the diseases of digestive system – 69,0%, on the third place accordingly – nervous system diseases 52,0%, on the fourth – diseases of eyes and its appendages of 41,4% began to prevail.

Conclusion: In structure of disease by results of the profound medical examination there was a castling of first two places. So on the first place eyes and its appendages diseases are marked – 89,7%, on the second place endocrine systems diseases – 65,4%. In comparison with 2009, among in the leaders again bone-and-muscular diseases (scolioses) are marked – 61,6%, the quantity of illnesses of bodies of breath – 59,1% has decreased.

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**PROGRAMME «FIVE ELEMENTS OF HEALTH».
EXPERIENCE OF SEASONAL DISEASE
PREVENTION AMONG SCHOOL CHILDREN**

Starkova I.

Background: According to the medical statistic of Ministry of Health of Russian Federation for the last years there is deterioration of health of school age children and actually no healthy children at all among those, entering the primary school.

Aim: Prevention of seasonal diseases among school children.

Patients and methods: The program includes training complexes, gymnastics, different for each season.

Each season is connected to the weakening of certain organs and systems of the body.

Timely consolidation of these systems will prevent diseases:

- summer – strengthening of the small intestine, heart, blood vessels, the prevention of small intestinal infections;
- the end of summer – increase immunity, prevention dysbiosis, strengthening of the pancreas;
- autumn – prevention of colds and allergic diseases, strengthening the respiratory system and colon;
- winter – preventing diseases of the spine and joints, strengthening the kidneys;
- spring – strengthening the liver and gall bladder.

Classes are held daily in the form of a 10-minute physical-training break in the middle of the shift.

Each complex consists of 3 parts:

1. acupressure-effect on certain areas on the body on the hands and ears
2. breathing exercises
3. elements of qigong exercises

In total the program involved 540 children from 1 to 11 class

Results: For a preliminary assessment of the effectiveness of the program sustainability of attention of the students was evaluated – psychologists were involved.

Improved attention and performance on average by 19,7%. Morbidity among schoolchildren during influenza epidemics decreased by 30%

Conclusion: The outlined above development shows that the introduction of a seasonal prevention during the education period leads to a decrease in the incidence of illnesses children and also improves attention and performance in general.

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THE ORGANIZATION OF PROPHYLACTIC WORK AMONG SCHOOLCHILDREN

Stepanova L., Savina N., Sleptsova N.

Background: Health condition level of the present schoolchildren in Republic of Sakha (Yakutia) is characterized by high prevalence of functional deviations, chronic diseases.

Aim: To introduce new technology for improving health condition of schoolchildren.

Subjects and methods: Yakutsk secondary school number 33 served as a base of research. The medical centre was organized at the school. The main link of interaction between medical workers, teachers and parents is the Council for schoolchildren's health improvement.

Results: Technology realization provides for close interaction of various profile experts working at school – employees of medical institute, medical workers, teachers, psychologists with active participation of the Board of school guardians. As a result of each expert's work individual medical health improving actions are developed. 1. The medical block includes diagnostic and health improving components. 2. The hygienic block provides for realization of medical control over health preserving technologies. 3. The medical-psychological-pedagogical block includes control over adaptation of students to educational process, regular psychological inspection. 4. The educational block provides for: carrying out a system course of hygienic education; introduction of the information on various elements of a healthy life-style by teachers of theoretical disciplines when teaching the subject. 5. The organization of physical training of students. This block provides for conducting lessons of health in the open air during a warm season, control over physical training lessons. 6. Work with students' parents which allow to observe continuity between life-style in educational institution and in family of the student.

Conclusion: Positive dynamics of some indexes of schoolchildren's health condition is observed as a result: the quantity of schoolchildren with reduced resistance has decreased by 14%, acute conditions were not observed at children having chronic diseases.

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COGNITIVE DEVELOPMENT AS PREVENTION OF HEALTH DISORDERS IN STUDENTS

Stepanova M., Sazanjuk Z., Sedova A., Polenova M., Alexandrova I.

Background: The contribution of school factors into the formation of children and adolescent health is about 40%. The decrease of an unfavourable influence of school environmental factors can be reached by the optimization of conditions of learning, rising the functional possibilities of student body and also by stable development of cognitive functions. Modern traditional teaching technology in school does not include regular development of these functions.

Aim: Hygienic assessment of the innovative pedagogical technology including special school lessons and methodical modalities oriented to a regular training of cognitive functions in students during school time.

Patients and methods: The studies were carried out during school lessons. 270 students in grades 1–9 were examined for two school years. The functional state of students' body was evaluated by the dynamics of their task performance, its vegetative provision and psycho-emotional status. The teaching was carried out on the background of higher educational load.

Results: It was found that the innovative teaching technology allows students to master higher school loads without the cumulation of fatigue. There is a close relationship between the effect of realization of this pedagogical technology and the length of schooling. Decreasing the «physiological cost» of learning in senior schoolchildren was worked out in frequency of cases of higher neurotization, severe fatigue, emotional discomfort less than in their traditionally schooled counterparts. The organization of out-of-door motor performance during breaks between lessons encouraged to the increase of stability to the development of fatigue.

Conclusion: The findings allow to conclude that the use of new innovative technology of the development of cognitive functions promotes to the increasing of functional possibilities of child's body, decreases the tiring influence of higher school load and risk of health disorders in children.

248 MEDICAL CONSEQUENCES OF PEDAGOGICS OF VIOLENCE

Stepanova M., Ulanova S.

Background: The psychological comfort in the process of education is one of important factors for pupils' mental health. Studying must exclude stressful situations at school. The reason of progressive neurotization of schoolchildren is that a child lives in stressful surroundings a significant part of his life. Thereby a considerable part of children's neuroses has a didactogenic basis.

Aim: To study the attitude toward different forms of violence in educational system.

Patients and methods: We revealed that 82% of parents think that teachers violate their children's rights in one or another way. While 65% of teachers don't consider that undeserved falling of marks on the subject is not a demonstration of mental pressure on children, 53% of them allow the harsh statements in the pupils' address. Only 10% of pupils are glad to see teachers. Only from four to seven percent of schoolchildren who belong to the traditional school are interested in studies.

Authoritarian pedagogics is characterized by stressful pedagogical strategy of personality formation, despotism and suppression of natural child's activity.

Results: In the class where the lessons were conducted by a teacher with an authoritarian style reliable increase of cases with children's overwork at the lesson was revealed (73,9% against 52%), frequency of high level of neurotization (87,0% against 63,5%), complaints on malaise, tiredness (36,4% against 18,2%) in comparison to those of the children in the class with the benevolent teacher. Psychological discomfort decreased productivity of their studying, increased time-consuming for preparing lessons and sleep debt, cut down time of being out of doors.

Conclusion: Obtained results in the research convince us that authoritarian, emotionally unbalanced, professionally inadequate teacher can harm to health of a kid, which is not even comparable with high educational load.

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**FUNCTIONAL PECULIARITIES
OF HEART'S PUMP FUNCTION AMONG
SCHOOLCHILDREN INVOLVED IN SWIMMING
AT THE JUNIOR SCHOOL OF SPORTS**

Stepanova N., Maxmutova J., Valeeva J.

Background: Modern students often suffer from the lack of motor activity, but sometimes also on the excess (if attends sports' school).

Aim: To study the changes in a heart's pump function of schoolchildren at the age of 14–15 involved in swimming (HR – heart rate, SV – stroke volume, the VBM – volume of blood in a minute).

Patients and methods: We have examined 126 children, adolescents, who are swimming at the junior school of sports in Kazan. The method of tetrapolar chest rheography and functional test PWC170 were used for estimation of the functional status of the heart.

Results: Those who swim the crawl in the age of 14–15 years heart rate is to 6% lower than in the other group. Swimmers (14–15 – and 16–17 years old) who swim the crawl have the rate of SV higher than those who use the breaststroke.

Analysis of indicators of the VBM showed that the highest rates have swimmers who swim the crawl. In the age of 14–15 years difference between the VBM was 7%, for 16–17 years – increased slightly. Teens of 14–17 years (swim the crawl), relatively to quiescent state the HR is lower, but SV is higher than those swimmers, who use the breaststroke, of the same age.

Conclusion: The HR of swimmers (14–15, 16–17 years) is lessens on condition that trainings will be systematic. High rates of SV were found among adolescents, who swim the crawl (16–17 years). In our view this is connected with the development of cardio-respiratory system and muscular trainings, aimed at the development of endurance. All the results were used during the developing of training studies and monitoring the functional viability of cardiovascular system, overwork, overstress.

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MEDICAL AND PSYCHOSOCIAL CARE
FOR PRESCHOOL AND SCHOOL CHILDREN
IN NETWORK COOPERATION IN GERMANY

Strassburg M., Hollmann H.

Background: Children with developmental problems, disabilities and chronic illness need special care and attention and of course the correct treatments and supports. Social paediatric centres in Germany (so called Sozialpaediatrische Zentren or SPZs,) are interdisciplinary institutions and have the appropriate structures for cooperation. They were legalized as a task of the health insurances in 1989. Paediatricians, mostly specialized in neuropaediatrics, psychologists, physiotherapists, occupational and speech therapists, social and pedagogic staff members work here together.

Aim: We want to collect and analyze data of the patients who were treated in the SP-centers.

Patients and methods: 143 SPZs are located across Germany, many of them being linked with a clinical department for paediatrics and adolescent medicine. One centre provides a region of about 400–500 000 inhabitants, a total of about 280 000 children are treated in all centres per year.

Results: The most frequent diagnoses are motor and speech delays, learning disabilities and mental retardation, ADHD, behavioural disorders, different motor disorders, epilepsy, and other multiple disabilities and chronic diseases, including the corresponding emotional and social problems. Mostly the centres provide complex diagnosing procedures, the introduction of specific therapies, and the coordination of all different institutions and counsel the parents in the first years of life, especially before starting school. These tasks are now much more difficult for we have a change from a specialized school system to an inclusive one in Germany according to the ICFCY and the UN – convention on the rights of persons with disabilities.

Conclusion: Today SP centres are integrated in local networks of social, medical and educational institutions, administrations and facilities. Nationally there is a constant exchange with joint projects and activities to be coordinated. The SP Centres are represented by the German Society for Social Paediatrics and Youth Medicine (DGSPJ).

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**THE VACCINATION OF PRETERM'S
(BIRTHWEIGHT < 1500 G) IN THE FIRST
2 YEARS OF LIFE IN GERMANY**

Strassburg M., Ziegler B.

Background: Preterm infants are at increased risk of suffering from vaccine-preventable diseases. Therefore it is recommended to vaccinate them in time at the same chronological age as full term infants. However, practitioners and parents are concerned about medical complications like apnoea or bradycardia and about the ability to develop protective immunity.

Aim: Several reports have shown that vaccinations of preterm infants are often delayed. Our aim was to collect data from Germany about this subject which did not exist till now.

Patients and methods: Our study analysed from 2007 to 2009 the vaccination rates and suffered complications of 318 preterm infants with birth weights under 1500 g at the age of 2 years from all over the country copying the vaccination-record and asking the parents to answer a questionnaire.

Results: The children received the first 3 doses of the pentavalent or hexavalent vaccines consequently (1st dose: 100%, 2nd dose: 100%, 3rd dose: 97,5%), whereas the booster dose was accomplished to a lesser extent (89,0%) during their second year of life. Only 36,2% received their first vaccination on time, whereas the majority of the vaccinations were administered delayed. 72,3% received vaccination against meningococcus type C, 18,6% against influenza. Whereas 17,8% of these preterm infants suffered from non-severe adverse reactions, none of them had an episode of apnoea following the immunisation.

Conclusion: In conclusion very extreme low birth weight infants in Germany receive their basic immunisations consequently, but often too late. Furthermore there is still the need to improve the frequency of the booster dose application especially in the second year of life and to prevent delays of vaccinations.

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PRIMARY PREVENTION OF THE BOUNDARY PSYCHICAL DISORDERS OF STUDENTS IN SCHOOL CONDITIONS

Sukharev A., Markelova S.

Background: The essential changes of intraschool educational environment are: an increased school load, the intensification of educational process, the decrease of motor performance of schoolchildren, the introduction of stress pedagogical technologies, and a regular lack of spare time in children. They promote the development of psychological discomfort and the increase of the prevalence of boundary psychical disorders (BPD) in schoolchildren. It was specified that 20–40% of the influence were impacted by school unfavourable factors of outdoor environment. A half of all neuroses in schoolchildren is «didactogenical». The informational overloads and microsocial-pedagogical neglect play a significant role in the development of disorders in mental health of a pupil.

Aim: The findings show the need of primary prevention of BPD among pupils in school conditions.

Patients and methods: To study the prevalence of BPD among schoolchildren we used «Assessment methods of student mental health in conditions of the educational institution» developed by A. Sukharev (2010).

Results: The result of the research activity was a creation of the set of primary prevention measures of BPD among pupils in school conditions. The set consists of four blocks: 1) the use of healthkeeping technologies in comprehensive school during the crucial terms of children biosocial development; 2) the maintenance of optimal educational environment in accordance with the requirements of hygienic standards; 3) the organization of rational daily regime with the elements of healthy life style; 4) psychological accompaniment of schoolchildren of risk group.

Conclusion: The introduction of the complex of primary prevention measures of BPD in schoolchildren into school practice allowed to decrease the prevalence of functional disorders of mental health of pupils and to increase their social adaptation to the educational process.

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STATE OF REPRODUCTIVE FUNCTION AND LIFE STYLE IN SCHOOLGIRLS AGED 12–15 YEARS

Sukharev A., Shelonina O., Ignatova L., Stan V.,
Tsyrenova N.

Background: There is a disorder in development and making of reproductive function (RPF) in schoolgirls aged 12–15 years. The medico-social aspect of the problem is in the contradiction between the physiology of the development of the reproductive system and life style of adolescent girls.

Aim. To estimate the state of RPF in schoolgirls in connection with their life style.

Subjects and methods: The age period of 12–15 years is crucial in the development of RPF as far as deep morfofunctional changes are ongoing steered by the transformation of neuroendocrine regulation under the action of hormones. The state of RPF in 100 12–15 aged girls in Moscow was examined by means of the questionnaire survey.

Results. Diagnostics was first used for the assessment of the RPF state in 12–15 aged girls. Moreover, cardiac rhythm variability was confirmed as indicator of the endocrine regulation. This indicator was taken as a criterion sign in the development of RPF. We specified the process of the RPF formation dependence on schoolgirls' life style. The most unfavourable components in their life style are the following: school load; stress pedagogics; a high physical load of sport character (hyperkinesias); irrational daily regime, when biological rhythms do not coincide with social ones (desynchronoz); deficit of protein and hypovitaminosis with low calorific capacity of the nutrition (Barby syndrome).

Bad habits (smoking, alcohol use) in schoolgirls present a specific danger.

Conclusion. Medico-psychologo-padagogical accompaniment for the creation of favorable educational environment and formation of motivation to healthy life style is needed for the preservation and strengthening of reproductive health in girls.

254 SECONDARY ARTERIAL HYPOTENSION IN SCHOOLGIRLS WITH IRON DEFICIENCY

Sulzhenko M., Golovchenko N.

Background: Secondary arterial hypotension (SAH) is pretty common school medicine problem and it needs to find its causes in order to prescribe effective treatment. Iron deficiency (ID) in this case is a significant factor in developing SAH, especially among schoolgirls. Adaptation to this state, its compensation is acted by the relationship of the central and peripheral circulation, being realized on the level of microcirculation. Increased need tissues for oxygen which occurs in case of ID, offset by an extension of the venules, which leads to decreasing in venous return and directly affects work of the heart. Decrease in ejection fraction of the left ventricle at the same time offset by an increase in heart rate. So, pathognomonic sign of SAH in schoolchildren with ID is tachycardia, which causes the complexity of medical treatment.

Aim: The aim of our study was to examine the influence of ID on blood pressure in schoolgirls.

Patients and methods: We observed 408 female adolescents with ID at different stages; the comparison group consisted of 30 girls with no signs of ID.

Results: The examination revealed tachycardia, hypotension, muffled tones of the heart. The interesting point was that the frequency of observation of these symptoms significantly increased with the degree of ID. The most typical symptom was hypotension which correlated with the severity of ID. For example, in prelatent ID rate of hypotension was 25%, latent – 35,3%, ID anemia I degree – 41%, II – 56,7%, and III – 73,7%. Significant fact was that after ferrotherapy rate of hypotension decreased pretty much, which additionally proves to its secondary character.

Conclusion: In conclusion, hypotension in schoolgirls with ID should be regarded as SAH in most of cases, which requires correction of the underlying disease.

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COMPARATIVE ASSESSMENT
OF ADAPTATION OF SENIOR PUPILS

Suvorova A.

Background: A distinctive line of a modern Russian school is variability of education and considerable intensification of the educational process. At the same time a growing tendency of aggravation of the children's health observed. Therefore, the study of influence of the intensive educational process on the pupils' state of health is important.

Aim: The purpose was assessment of adaptation of modern senior pupils to the intensive educational process in comparison with their mates in the 90-ies of the last century.

Patients and methods: The standard clinical, physiological methods were used to study the indicators of health and functional condition of systems of pupils in the dynamics of study process. The observation group formed 360 pupils aged 15–17 years from schools with profound study of a number of subjects. A comparison group was made from 415 pupils of the same age taught in the same schools in the early nineties of the last century.

Results: The results of the research showed the following: the senior pupils of both groups showed a low initial level of health: only 5% of the adolescents were healthy, one third had functional deviations, more than 60% of senior pupils suffered chronic diseases.

Throughout the academic-work day, week and year the share of pupils of the observation group having favorable functional changes in the central nervous system was considerably higher than that in the comparison group ($p < 0,05$). The analysis of indicators of the functional condition of the cardiovascular system of senior pupils in the dynamics of the work day, week and year showed that in reply to the exceeded academic load the unfavourable type of reactions and overstrain of functions was registered with the modern senior pupils much less frequently ($p < 0,05$) than in the 90-ies.

Conclusion: Thus, on the whole the modern senior pupils have better-formed adaptive reactions of the organism to the intensive educational process than their mates in the 90-es of the last century.

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SPECIFIC FEATURES OF NUTRITION OF SCHOOLCHILDREN IN SAINT-PETERSBURG

Suvorova A., Yakubova I., Chernyakina T., Blinova L.

Background: Nutrition is one of the major factors forming health. The correctly organized nutrition provides for normal growth, physical and mental development of children and adolescents, promotes formation of protective forces of the organism and rise of working capacity.

Aim: To study nutrition features of schoolchildren of Saint-Petersburg.

Patients and methods: 748 pupils aged 10–17 were interrogated by questioning.

Results: The research results have shown that 80,9% of schoolchildren eat 4–6 times a day: 85,1% of children have breakfast at home, 58,4% of pupils have second breakfast at school, 90,8% of children have hot dinner. More than half of pupils have a daily afternoon snack. 88,7% of children have supper together with parents and other members of the family, 59,7% of children have a bite late at night.

With regard for the variety of the pupils' diets, common features were revealed as to consumption of particular products within a week: 29,8% of schoolchildren consume meat daily, smoked meat foods – 26,6%, boiled or fried sausage – 16,2%. Only 7,3% of pupils consume fish products daily. Cheese, cottage cheese and yoghurt are consumed in daily diets by a third of the observed pupils.

As to vegetable products, only one third of children use rye and white bread daily. Pies, cookies are available in the daily diet of 30,3% of schoolchildren, over 40% of children consume pasta many times a week. Pizza, hamburgers, chips are a part of diet with 24,2% of children.

Daily use of vegetables is observed only with 33,1% of the schoolchildren. Fresh fruit are present in the pupils' meals daily with 47,6% of children.

36,2% of children use sweet drinks (lemonade, cola, fanta) – sources of increased consumption of refined carbohydrates – several times a week.

Conclusion: The obtained materials demonstrate the typical situation, as concerns meals of modern children and adolescents: which is deficiency of animal protein, vegetative cellulose, vitamins and microelements, as well as surplus of refined carbohydrates.

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**COMPARATIVE DESCRIPTION OF EXISTING
METHODOLOGIES FOR THE TRANSLATION
OF GENOME-BASED INNOVATIONS
INTO PUBLIC HEALTH FOR THE BENEFIT
OF CHILD AND YOUTH HEALTH CARE**

Syurina E., Schulte In Den Bäumen T., Feron F., Brand A.

Background: In the last decades there is a constant growth in basic sciences related to the use of genome-based health information, which can potentially have high impact on Child and Youth Health Care as the starting point of life of individuals. For instance, the research in childhood asthma proved 40% of cases to have epigenomic (gene and environment interaction) causes.

Aim: However, a gap between basic research and the translation of the research results into Child and Youth Health exists. Possible methodologies for translation need to be compared to assess the benefit of their potential cross-integration. The following methodologies are going to be presented: ACCE (Analytic validity, Clinical validity, Clinical utility, Ethical, legal and social implications), Evaluation of Genomic Applications in Practice and Prevention, Continuum of translational research, the Public Health Wheel, Health Technology Assessment, Health Impact Assessment, Health Needs Assessment and the Bellagio mode (Public Health Genomics enterprise).

Patients and methods: The research presents the results of the literature search as well as the current use of the described methodologies with special attention paid to Child and Youth Health Care. Based on the description of the state of the art in translational research of Public Health Genomics, conclusions will be drawn about the added value of using such methodologies especially in the field of Child and Youth Health Care.

Results: The study showed that different methodologies have different approaches to the translation process in Child and Youth Public Health Genomics and each of them having its advantages and drawbacks.

Conclusion: It was concluded that the introduction of Public Health Genomics into Child and Youth Health Care can have considerable benefits. Despite the heterogeneity of the analyzed methodologies and difference in use in the everyday practice, their cross-integration is important in order to improve the translation speed and quality.

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**INFORMATION CAMPAIGNS IN MASS MEDIA
AS AN EFFICIENT INSTRUMENT OF INFLUENCE
ON HEALTH PRESERVING BEHAVIOR
OF YOUNG PEOPLE**

Taisheva L.

Background: The format and content of the information space where young adults and teenagers live, study and rest are changing, and so the methods and technologies of prophylactic work with this age group must also be changed. Tools used to sell goods and services in commercial sector can and must be used successfully in the social sphere to promote ideas of healthy life style.

Aim: To determine effective instruments to develop health preserving behavior of young people.

Patients and methods: From 1997 to 2009 in the Republic of Tatarstan have passed seven mass media information campaigns among the youth (15–29 age), based on the social marketing. Their principles were: no frightening images or fear based psychological influence; three main goals simultaneously – prophylactic of STI, HIV, and unwanted pregnancy.

The information was spread through TV, radio, newspapers and magazines, the Internet, outdoor advertising, etc. After each campaign the results were estimated with the help of the standard interview by the repetition-free method of random sampling.

Results: In the Republic of Tatarstan the number of HIV-infected people among 15 to 29 year olds reduced by 1,4 times in the period from 2002 to 2006 from 82,7% to 58,5% ($p < 0,01$). Within the ten years of campaigns the relative index of abortions (per 1000 women) among 15–19 year old girls decreased more than twice from 42 in 1998 to 18,8 in 2007. Young people covered by information campaigns gave the right answers about routes of HIV-infection more often, and they showed less fatalism about safe sex. They more often refused to have sexual intercourse without condoms (53%) compared to those who did not see the campaign (38%).

Conclusion: Information campaigns in mass media are effective means of developing health preserving behavior of young people, and TV has become the most efficient instrument to spread information.

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MODERN TECHNOLOGIES OF PROTECTION OF MENTAL HEALTH OF ADOLESCENTS

Tamazyan G., Mitrofanova O.

Background: In Moscow region the technology of early identification of drug users in educational institutions has been developed and introduced. The organizational and legal guarantee of this work was confirmed in the Law of Moscow region «About the prevention of drug addiction and toxicomania in Moscow region».

Aim: To create the system of preventive measures providing the protection of mental health of students.

Subjects and methods: The technology of the organization of voluntary informed testing of students with the determination of drugs in biological environment (urine) by enzyme multiplied immunoassay with the use of express-diagnostic multicomponent test-systems has been developed and introduced. The work includes three stages and is carried out by psychiatrists, narcologists, and teachers: the first stage – informing of adolescents about the study and legal consulting; the second one – narcologic study and medical consulting; the third one – differentiated preventive work. The studies were carried out in all institutions of professional education; 38–27 thousand adolescents were examined annually.

Results: The level of drug users was determined among students – 4,7% of students who participated in the study in 2006. Due to the differentiated preventive work with students and the introduction of constant psychological preventive programs into educational process the level of drug addiction decreased 2,1 times in 2010. The number of students who refused to participate in the study decreased more than 10 times and was 0,8% in 2010.

We identified the kinds of drugs prevailed in the region, the information was sent to the legal bodies for the suppression of ways of disseminating.

Over 70% drug users educated during the study had a timely treatment and during the second study their refusal in drug use was confirmed

Conclusion: The technology allows reducing drug users in educational institutions, to prevent the disseminating of drug disorders among adolescents, to protect their mental health.

260 HEALTH OF TEENAGERS LIVING IN HIGH LATITUDE CONDITIONS

Tarasova O., Muratova A.

Background: Health of teenagers forms under the action of various external and internal factors. The most important are climate and region of inhabitance, quality of medical aid organization, intensive study during finishing secondary school.

Aim: The aim of the presented research was studying the health of 15–17 year old teenagers living in Nenets region.

Patients and methods: Taking into the consideration the diseases as the main health criterion we carried out analysis of the general, primary and chronic diseases during 1999–2008. Disease statistics of 4513 teenagers was studied according to the disease classification and individual nasal forms. Official state statistics and special clinic research were used in this work.

Results: General teenager diseases during the decade increased 2.3 times (linear equation coefficient was 212.3). The growth rate of teenager diseases is higher than among children 0–14 years old. The general disease growth occurred in all groups of disease and the structure of diseases changed too. General disease ranging showed that during decade respiratory system pathology is leading. Proved changes of pathology parts occurred in 9 disease classes ($p < 0,001$). Primary teenager diseases increased 4.2 times and made up in 2008 2817,0%. According to the structure respiratory system diseases are leading ranging from 51,1% to 40,8%. Growth of primary teenager diseases occurred in all disease groups except eye diseases and nervous system diseases.

Chronic teenager diseases grew up to 47% ($p < 0,001$). Chronic disease growth is fixed in 12 groups of diseases and decrease in 2 groups of diseases: gastrointestinal diseases and mental diseases. The structure of chronic diseases also changed: in 2008 the leading diseases were respiratory, gastrointestinal, urinary and osseous systems diseases.

Conclusion: The results of research should not be neglected as the obtained data reflect diagnostics upgrading by means of modern medical technologies used in practice.

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STRATEGIES OF SCHOOL HEALTHCARE DEVELOPMENT IN SVERDLOVSK REGION

Tatareva S., Malyamova L., Nasybullina G., Nojhkina N., Anufrieva E., Lipanova L., Moiseeva N.

Background: The state of health of the pupils in Sverdlovsk region is marked by increasing sickness rate and declining physical development.

Aim: To create the State support system for development of school health care and realization of prevention programs at schools on the territory of Sverdlovsk region for health promotion.

Subjects and methods: The extend clinical examination of teenagers; selective examinations of frequency of the most widespread disturbances with rating of risk factors for their development (6546 persons) were carried through. The way of life and the attitude to the health was explored by 5738 pupils, 7703 parents and 497 teachers. The method of testing for drug usage by pupils was tested (6000 teenagers). The quality of medical services and conditions for realization of prevention programs were studied in schools of Sverdlovsk region.

Results: The proposals for optimization of preventive and health-improving actions, that were included in the Conception «Improvement of delivery of health care to the pupil of general education institutions in Sverdlovsk region for the period until 2025», in the Regulations of the Government of Sverdlovsk region, in the joint decrees of the Ministry of Public Health and Ministry of General and Vocational Education of Sverdlovsk region, were supported. The priority directions of prophylaxis that require development and introduction of appropriate technologies are determined. The Ministry of Public Health has created interdepartmental working groups whose work was started on the 12 pilot platforms uniting schools and children polyclinics under them. At the end of the year 2010 91,4% of school medical stations received a license.

Conclusion: The Conception «Improvement of delivery of health care to the pupil of general education institutions in Sverdlovsk region for the period until 2025» is substantiated; the organizational, legal and regulatory framework for its realization is created.

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NUTRITIONAL STATUS FEATURES ASSESSMENT AND THEIR PROGNOSTIC ROLE IN SCHOOLCHILDREN

Tchernaya N., Ivanova I.

Background: One of the main health problems all over the world is the increase of overweight and obesity especially in young people. The origins of obesity very often can be found in childhood including school age period. But the risk factors and early stages of obesity are rarely taken into account by school pediatricians.

Aim: To develop nutritional status assessment system able to reveal main risk factors and early symptoms of different forms of overweight in schoolchildren.

Patients and methods: Under our supervision were 620 schoolchildren (290 boys and 330 girls) 12–14 years of age. In addition to anthropometric measures (height and weight, body mass index) we assessed total body fat mass by means of leg-to-leg contact-electrode BIA system (TBF 662, Tanita Corp., Japan). The information about children development and life style we taken from questionnaires completed by their parents.

Results: According to the results of nutritional status assessment (deficit or excess of total body mass or/and fat mass) all the children were divided into several nutritional groups. 15,2% children were «overweight» but only 46,1% of them were also «overfat». «Overweight and normal fat» nutritional status variant was associated with such factors as sedentary lifestyle (OR = 4.9), overeating (3.4), excess of sweets (3.0). «Overweight and overfat» variant was associated with endocrine pathology in anamnesis (8.5), hypertension reactions (7.3), psychopathological symptoms (6.8), acne (3.7), cardiovascular and endocrine diseases in families (2.8).

Conclusion: Overweight schoolchildren can have as normal as over body fat mass. These nutritional status variants are different by nature so children need different prophylactic approach. Suggested nutritional status assessment system seemed to be effective in differential diagnostic of overweight conditions during medical examination procedures in schoolchildren.

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TO FORMATION FROM CHILDREN'S AGE OF THE REALIZED REQUIREMENT

Tchitcherin L.

Background: Children and teenagers become one of most socially vulnerable groups of the population, demanding in modern conditions of intensifying of a preventive orientation of public health services, conducting a healthy way of life, etc.

Aim: Optimization of organizational technologies to formation from early children's age of the realized requirement for a healthy and safe way of life.

Patients and methods: The complex of modern methods of socially-hygienic and medico-organizational research among a contingent of children and teenagers is elderly till 18 years: statistical, analytical, natural, sociological, experiment, studying of experience of regions and so forth.

Results: Last year's quite «controlled», preventable reasons (traumas, poisonings, murders and suicides, has sunk and so forth) in structure of a mortality of children, beginning already with the second year of life, and also teenagers and youth, take a proof first place. On their share it is necessary, on the average, from 44,5% at the age of children of 1–4 years to 82,5% – in 15–19 years. The tendency of deterioration of physical, mental, genesial health, early synchronization of processes and an invalidism, self-blasting behavior, including diffusion of bad habits, offenses of minors and others is confirmed.

Conclusion: Priority in modern conditions, realizing World Health Organization references, are effectiveness of the legislation in the field of health protection of children; new technologies works of work of establishments of formation, public health services, leisure, physical training and sports, mass-media; positive in this plan a personal example of adults; necessity to respect opinion of young men to involve movements of teenagers, youth and other organizations in the decision of the vital issues in itself to youth medium taking into account age and a maturity. Including working out and introduction of programs of training to a healthy way of life, safety behavior, etc.

264 THE INFLUENCE OF FREQUENCY AND DURATION OF A MOBILE PHONE USE ON INDICATORS OF HEALTH IN CHILDREN AND ADOLESCENTS

Teksheva L., Barsukova N., Chumichova O.,
Kurgansky A., Nadezhdina L.

Background: Nowadays children and adolescents are the most significant group of increase of mobile phone users. The main difference in a mobile phone use between children and adults is a long term of the influence of high frequency electromagnetic radiation on life cycle of children. In this connection it is necessary to study sub-dependent effects of the feedback of a child's body.

Aim: To determine the dependence between indicators of health state and a real load of mobile connection.

Subjects and methods: Health state was estimated by questionnaire survey of the following indicators: frequency of headaches, difficulty dropping-off to sleep and the number of diseases with a high temperature per year. 2700 schoolchildren aged 6–18 years participated in the questionnaire survey.

Results: It was studied the correlated connections between health indicators and a real load (the total time of the duration of daily conversations) during the use of a mobile phones. The studies were carried out according to the age and sex of respondents. The authentic connections ($p \leq 0,05$) with the number of diseases per year were registered in all the pupils aged 6–10 years. The duration of conversations correlates ($p \leq 0,05$) with the frequency of headaches. Students aged 14–15 years had a correlation ($p \leq 0,05 \div 0,01$) on all indicators of health state.

There were authentic connections ($p \leq 0,05$) between the number of diseases per year and the duration of phone conversation in boys from two age groups (6–10 and 16–18 years old). The girls aged 6–15 years who speak on the phone 1,4÷2 times more depending on the age had more higher correlated connections on the same indicator than boys.

Conclusion: The findings determine the high frequency electromagnetic radiation as a risk factor for health of the rising generation.

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THE PREVALENCE OF USE OF MOBILE CONNECTION AMONG CHILDREN AND ADOLESCENTS

Teksheva L., Barsukova N., Chumichova O.,
Kurgansky A., Nadezhdina L.

Background: The urgency of the problem is stipulated by the constant increase of abonents of mobile connection system. There are 150 million of users in Russia. The researches in different countries suppose a high risk of unfavourable influence of the electromagnetic fields of mobile phones on children and adolescents.

Aim: To determine a real burden of mobile connection on a child's body.

Patients and methods: The prevalence of mobile connection was studied by the questionnaire survey of 2700 schoolchildren aged 6–18 years in three regions of Russia (Moscow, St. Petersburg, Voronezh).

Results: The findings showed that 98,3% of children use mobile phones. 93,1% of schoolchildren have personal phones: 83,4% in the group of children aged 6–10 years, about 94,5% in the group of students aged 16–18 years.

The frequency and duration of mobile phone use increase with age: the total time of daily conversation is defined from $6,5 \pm 0,7$ minutes in junior group (6–10 years old) to $20,8 \pm 1,2$ minutes in senior students (16–18 years old).

Herewith, the number of daily conversations in junior pupils is $3,1 \pm 0,7$, in students aged 16–18 years — $5,1 \pm 0,5$. The duration of one conversation in a junior group is defined as $2,1 \pm 0,1$ minutes, in a senior group — $3,6 \pm 0,1$ minutes.

The fact of presence or absence of a stationary phone in the family does not contribute the authentic changes into the findings.

It was found the authentic change in the number of conversations and the total time of daily conversations between boys and girls. It was determined that girls depending on their age speak on the phone more than boys in 1,4–2 times.

Conclusion: The comparison of the findings with the information accumulated in the world about the unfavourable influence of high frequency radiation of mobile phones on an individual shows a high risk of mobile connection for health of children and adolescents.

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FEATURES OF PERCEPTION
OF THE INFORMATION DURING
THE USE OF ELECTRONIC TEXTBOOKS

Teksheva L., El'skina E., Perminov M.

Background: The use of computer means (electronic textbooks) in education broached the question about hygienic regulations of «new kind» textbooks among the hygienists.

The analysis of the problem literature shows the absence of a single point of view in researches about the rules of presentation of school information on a computer display.

Aim: To study the features of feedback of students' visual system during different variants of presentation of the information on displays.

Patients and methods: The studies were carried out in Moscow teaching and educational complex. 20 pupils from grade 3, 15 pupils from grades 6 to 7 and 15 senior pupils (grade 9) participated in the study. The colours of signs and backgrounds ranged, the control was the reading from paper.

Results: The volumes of texts for grade 3 had 1000 signs, for grades 6–7 and for 9 – 5000 and 7000 signs respectively. The text for elementary school was typed in font size 14 in block-letters, in the secondary and senior group – in font size 12 using «Times New Roman» font style.

The total indicator of visual working efficiency was a specially derived indicator – the degree of the complexity of visual task (DCVT). It considered the speed and quality of reading and authentically correlated ($r \geq 0,92$) with the indicators of accommodation amplitude, contrast discrimination of sight and critical frequency of flicker fusion.

The degree of fatigue during the reading from display in comparison with the reading from paper was 20–26% higher in secondary classes and 26–38% in senior ones. The difference in the degree of fatigue in junior classes was 70% in favor of the paper.

Conclusion: According to the findings of the study there were developed hygienic requirements to the means of informational presentation on display in educational process. They were included into Technological regulations of the safety of goods for children and adolescents.

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STUDY OF REAL LEVELS OF THE INTENSITY OF MICROWAVE RADIATION OF MODERN MOBILE PHONES

Teksheva L., Shakirova L., Grigorenko I.

Background: The rate of population undergoing the radiation from the personal mobile communication means is growing constantly. The influence of the electromagnetic radiation on a human is determined by the frequency and intensity of radiation. The power emitted from mobile phone during its work is practically a simple sign of the perfection of mobile phone system.

To define the degree of negative influence of mobile phones on children's health it is necessary to study the real levels of energy-flux density emitted from mobile phones during their work.

Aim: To study the real levels of radiation of most popular mobile phones among children and adolescents.

Patients and methods: The questionnaire survey (2700 schoolchildren) showed that the most popular mobile phones among children and adolescents were mobile phone firms Nokia, Sony-Ericsson, Samsung. 106 mobile phones were measured in working regime by P3 –33M device. It was structurally adopted for the measurement of microwave radiation of mobile phones.

Results: The measurement of one firm but different models gives spreads in 7÷50 times. The phone Nokia 2330 Classic generates the radiation 8,8 microwatt/cm², the phone Nokia 6500c – 65,3 microwatt/cm². Different models of Sony-Ericsson have radiation from 0,4 microwatt/cm² to 52,9 microwatt/cm².

The intensity of radiation of mobile phones depends on the distance of connection. During the conversation within Moscow the mobile phones of the firm Nokia have a mean level of radiation 17,9÷22,4 microwatt/cm², during the conversations Moscow – Shatura (about 150 km from Moscow) the intensities of radiation increase by 336,5÷485,2 microwatt/cm², it exceeds the maximum permissible limit in Russia – 100 microwatt/sm² in several times.

Conclusion: Mobile phones working in regime of higher intensity of radiation are insecure for health of children and adolescents. On the basis of our measurements we suggest a hygienic classification of mobile phones.

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CHILDREN`S READINESS FOR SCHOOL
IN SAXONY

Tiebel M.

Patients and methods: 1886 children at the doorstep to school were seen in a south- east area in Saxony, Germany by the Department of Health from august 2010 to February 2011. Data were compared to the data acquired during investigation of the same cohort during their time in preschool at age three to four.

Methods: A parents` questionnaire, containing a German version of the SDQ (Strength and Difficulties Questionnaire) by Robert Gordon, 1990 was a part of the evaluation. S-ENS Test (Manfred Döpfner, Iris Dietmar at all, Hogrefe Verlag) was used to evaluate school readiness as required by the Ministry of Social affairs and Health in Saxony.

To evaluate language abilities in children during preschool the SSV (Language Screening Test by Hannelore Grimm, Hogrefe Verlag) was applied.

Results: Most important to us was to consider the success of social programs to promote children with disabilities or developmental deficiencies. In addition, the socioeconomic status of the families and the results of the SDQ were correlated to the scores achieved by the children during the tests. The results show the sufficiency of an early intervention in children with developmental deficiencies. They also show that deficiencies are correlating with behavioural problems.

Conclusion: So far not all data are statistically analyzed yet and we are still expecting more interesting results.

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ORAL HEALTH STATUS AMONG TAMPERE UNIVERSITY STUDENTS IN 2010

Tipuri M., Vuorinen A., Pontys K.

Aim: The purpose of this study was to find out the oral health status of the university students in Tampere. The students in Finland have an opportunity to dental examination and dental care according the treatment plan. The first checking is free of charge.

Patients and methods: The study sample comprised 3393 university students who participated in oral examination in our clinic from January to the end of October in 2010. The mean age was 25.9 years and there were 52.9% female students.

The oral examination was made by dentists who work in our clinic. 1070 students had their first oral examination in our clinic. The examination included dental and gingival status, the checking of mucous membrane and organ of occlusion. The radiographic examination (bite wing radiographic examination or panorama tomography or both of these) was taken after dentists' consideration. DMFT (decayed, missing and filled teeth), DT (decayed teeth) and CPI (Community Periodontal Index) indexes were recorded according to the WHO criteria.

Results: In the whole group the mean DMFT was 7.1, 8.9% had DMFT zero, female students 9.0% and male 8.8%. The mean DT was in the whole group 1.50, female 1.26 and male 1.80. The prevalence of caries free dentition was by female 50.9% and by male 43.1%. Altogether there was 5151 teeth witch needed caries treatment. Calculus was found from 85.4% of students and 2.5% had deepened pockets.

Conclusion: Although oral health is fairly good among university students we must pay attention to caries prophylaxis especially by male students. A delicate examination with x-rays gives best basis for dental treatment and preventive self-care.

270 THE PREVALENCE OF CONGENITAL MALFORMATIONS OF ORPHANS AND CHILDREN IN DIFFICULT SITUATIONS

Trefilov A., Ivanova I.

Background: Since 2007, Russia carried out thorough medical examination of orphans, children left without parental care; children with disabilities are in state institution of health-care, social protection and education. It is known that the morbidity of this population is significantly higher than their peers raised in families, due to heredity, adverse biological and social history.

Aim: To determine the prevalence of congenital malformations of orphans, children in difficult situation and with disabilities living in Chuvash Republic.

Patients and methods: In 2010 we examined 1270 children from 3 to 17 years old, more were 778 boys (61,3%) and 492 girls (38,7%), using the ultrasound diagnostics. Inspected children divided into the following groups of health: 1th – 0,5%, 2nd – 37,6, 3rd – 37,0, 4th – 21,1, 5th – 3,6%.

Results: Renal malformations were diagnosed in 473 children (37,2%), including congenital – 146 cases (11,5%), small anomalies – in 322 (25,3%), cystic dysplasia – in 5 (0,39%). The most common variants were the rotation – 12,2% of the patients, hyperplasia c. Bertin – 9,4%, pyeloectasia 10,6%, duplication 3,2%, dystopia 4,6%. 7,4% of children had hepatic anatomical abnormalities and 1 case of the gallbladder agenesis.

Congenital heart anomalies were diagnosed in 65 children (5,1%) and 23 children had corrected severe malformations (the tetralogy of Fallot, the full form of AVC and other).

We found a high prevalence of small anomalies, each child had 1.4 different pathological states, among which were the left ventricular abnormal chord – 69%, valve prolapse 44,5%, patent foramen ovale 8,5%.

Conclusion: The high prevalence of the congenital malformations of children in difficult life situation requires considerable effort on their treatment and rehabilitation.

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**GENDER DIFFERENCES OF DYNAMICS
OF RISK FACTORS AMONG SCHOOLCHILDREN
FOR THE PERIOD OF STUDIES FROM 5
TO 7 GRADES****Trofimenko A.**

Background: In connection with high morbidity level among schoolchildren, it is urgent study the prevalence of factors, which are referred by the WHO to as main behavior risk factors (BRF) of development of non-infectious diseases. This will contribute to taking appropriate measures on the prevention of deviations in health state among students in educational institutions.

Patients and methods: The prevalence of BRF was studied among 406 Moscow schoolchildren (197 boys, 209 girls) in the dynamics of education from the 5th to the 7th grade by means of a questionnaire survey.

Results: The prevalence of alcohol consumption (up to 5 times per half a year) in the 5th grade was 14,2% among the boys, and 10,9% among the girls. In girls the prevalence was multiplied by 2.7 by the 6th grade ($p \leq 0,05$); the growth rates decreased dramatically by the 7th grade. The proportion of schoolchildren, who tried smoking, was 17,2% among the boys in the 5th grade, and 6.1% among the girls. It increased dramatically by 3.6 times among the girls by 6th grade and from the 6th to the 7th grade – by 17,1% ($p \leq 0,05$). The prevalence of nutrition disorders in the 5th grade was 25,8% among the boys, and 27,9% among the girls. The frequency of hot food consumption once per day and less frequently increased by 1.6 times ($p \leq 0,05$) by the 6th grade among the girls, there is stabilization at the level of 46,2% by the 7th grade. The prevalence of hypokinesia was 66,5% among boys in the 5th grade, and 79,9% among the girls. It increased by 17% ($p \leq 0,05$) among the girls by the 6th grade, remaining practically at the same level in the 7th grade. The evolution of all the factors had a linear character with annual growth of 7–13% among the boys.

Conclusions. The gender difference in the evolution and level of prevalence of factors among the students was confirmed. The obtained data should be taken into account when working out preventive programs for schoolchildren.

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THE APPLICATION OF COMBINED MOVEMENTS FOR DEVELOPMENT OF FINE MOTOR SKILLS IN PRE-SCHOOL AGE KIDS

**Tsiplakova A., Makarova O., Timkina T., Levchenkova T.,
Velikanova L.**

Background: During the diagnostic study of young children in Daycare School № 1986 a psychological and educational problem was revealed: lack of development of fine motor skills, combined with physiological immaturity, along with difficulties in relaxation of facial, abdominal and limb muscles. Pre-schoolers often remain tense, get tired easily after any amount of physical activity, and have difficulty in activities demanding precise finger coordination: clay molding, scissoring, clip art, construction sets with small details, hatchwork.

Aim: The present work is concerned with finger gymnastic and game sets with background music for each pre-school age group.

Subjects and methods: The exercise sets are composed for each school semester and have their own set of songs and rhymes. The finger gymnastics is conducted by teachers daily and typically lasts 5 to 9 minutes, depending on the kids' age.

A feature of the exercises is the implementation of all representational systems: kinesthetic, visual and auditory. Combining the finger exercise with oral accompaniment in the form of listening to rhymes produces the best educational effect. Through the course of the exercise the kids are asked to «construct» various objects out of their fingers. This unusual plays sparks pronounced interest and emotional response in children, allows catching their attention, creating a desire to quickly and precisely reproduce the figure with their fingers. The regular repetition aids the development of attention, hearing, thinking, memory, & social skills.

Results: The results of the study demonstrate an increase of productivity among kids during classes, the advance in visual and auditory cognition, the development of creative and logical thinking, voluntary attention, imagination, speech, fine motor skills and hand movement coordination, learning of basic drawing skills, which improves adaptation in school activities.

Conclusion: The use of suggested method is effective in Daycare schools as means of assisting the kids' intellectual and physical development.

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**JUNIOR SCHOOLCHILDREN' FEATURES
OF ROUTINE OF THE DAY IN THE CONDITIONS
OF THE MODEL «SCHOOL IS THE TERRITORIAL
CENTER OF HEALTH SAFEGUARDING»**

Ulanova S.

Background: Decrease of natural motor activity, reduction of night sleep duration, of being out of doors time are characterized for schoolchildren of the Extreme North regions.

Aim: Hygienical assessment of pupils' daily routine moments at experimental schools was conducted on the basis of comparison of pupils' studying results of daily time budget at experimental schools of the Komi Republic.

Patients and methods: The daily routine of one thousand three hundred and seventy seven (1377) schoolchildren from the first to the fourth classes was studied to identify children's features of life with the help of the method of questioning.

Results: Obtained results reveal that pupils' routine of the day of experimental schools has some advantages. Majority of pupils satisfy their biological needs for motor activity (75–100% against of 33,2–53,9% at ordinary schools) with the help of arrangement of more dynamic variant of studying. Schoolchildren's optional occupation in the sphere of extra education in the second half of the day reflects the balance of their static and dynamic activity. Almost the same number of pupils of junior school (58,3–100%) visit sections with esthetic tendency. Among pupils of ordinary schools the number of visiting ones the same sections almost twice less.

Significant sleep debt, decrease of walks in the open air provoke complaints of malaise by the most junior schoolchildren (56,2% of grade 1, 48,7% of pupils of form 2 and 57,1% of pupils of form 4) in the period before the experiment, 88,7% of children from the first to the fourth grade note the need of sleep during the day. In the conditions of the experiment 24–30% of pupils note the same complaints.

Conclusion: Obtained results in the research convince us that arrangement of schools' work in the conditions of the experimental model admits to structure the moments of pupils' daily routine more efficiently, leads to spending less time studying, to saving of children health's resources.

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**INTERDEPARTMENTAL INTERACTION AS
THE BASIC METHOD OF WORK OF REGIONAL
BRANCH ROSHUMZ ON HEALTH PROTECTION
OF CHILDREN OF EDUCATIONAL INSTITUTIONS**

Usanova E.

Background: Basis of activity of Nizhegorosky branch ROSHUMZ is the interdepartmental approach which is considered as formation of a policy of joint actions of workers of various departments for achievement of uniform result.

Aim: Assistance to controls public health services and education on improvement of medical maintenance and introduction of technologies of preservation of health of children of educational institutions.

Patients and methods: Nizhniy Novgorod branch ROSHUMZ includes 136 members; they are administrative workers, the medical personnel of schools, preschool centre's, polyclinics, teachers, scientific, and parents.

Work mainstreams are: support and distribution of the best practices of work of educational institutions on preservation of health of the trained; a supply with information; consultation of participants of educational process, monitoring of development and a state of health of children.

Results: Are developed: the Coordination council project at the Government of the Nizhniy Novgorod area on protection of a life and health of children; Position about constantly working education system of children's doctors and medical sisters of schools. The model of «Health School» is approved and introduced in 269 establishments. Advisory-methodical support of schools – participants of regional and All-Russia competitions is carried out. Members of regional branch regularly participate in training of parents to bases of a healthy way of life. By results of monitoring of a state of health of children's contingents experts of branch participate in working out of improving and rehabilitation programs.

Conclusion: Active participation of regional branch ROSHUMZ on the basis of interdepartmental interaction allows solving effectively problems of preservation of health, formation of culture of the health, a healthy way of life of children of educational institutions.

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**FREE-TIME ACTIVITIES OF CHILDREN
RESIDING IN DIFFERENT GEOGRAPHICAL
AND ECONOMICAL LOCATIONS IN CENTRAL
DALMATIA**

Utrobicic I., Ercegovic K.

Background: Analysis and comparison of habits related to spending of free time of children living in coastal and island areas, and the inland part of Central Dalmatia

Patients and methods: Students aged 14–15, 150 participants from the islands, 150 from the coastal area and 150 participants from the inland part of Central Dalmatia Anonymous survey.

Results: We have confirmed that the majority of children spend their free time socializing with their peers, from 42,6% in the inland part, up to 54,6% on the islands. The percentage of surveyed students engaged in sports activities ranges from 22% in the islands to 23.2 in the inland part. In all three locations students spend the least time reading, from 1,3% in the islands, to 3,0% in the inland part.

When they choose to go out, students usually spend time walking in the town or village, the numbers ranging from 68,6% in the islands, to 83,0% in the coastal part. Already at this age they visit café bars, from 14,6% in the coastal part to 18,0% in the inland part. Going out clubbing (4,8%) or visiting friends' houses (10,6%) is most common in the islands

Conclusion: We have established that half of the surveyed children prefer to spend their free time socializing with their peers, one quarter of participants engages in sports activities, followed by TV and listening to music, and they spend the least time reading. Children living on the islands use Facebook more than 3 hours a day and approximately 20% of children overuse internet. The results show that there is no major difference in spending free time between children, considering geographical and economical variations of the locations where they reside and attend school.

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PERCEIVED STRESS OF PERUVIAN UNIVERSITY STUDENTS

Van Den Broucke S., Chau C.

Background: Dealing with the changes of adolescence creates a great deal of stress. Although the specific stressors experienced by young people are strongly dependent on the cultural context in which they live, very few studies have been carried out to investigate the sources of stress and the way adolescents cope with them in countries other than North America or Europe. The present paper examines life stressors and coping mechanisms in a Latin American context.

Aim: To examine life stressors and mechanisms to cope with stress among Peruvian university students.

Subjects and methods: A questionnaire study was performed involving 558 male and 523 female students enrolled at one public and two private universities in Lima, Peru. Stressors were measured with an adapted version of the Problem Questionnaire (Seiffge-Krenke, 1995), yielding perceived stress scores on 6 sources of stress: university, future, parents, peers, relationships and self. Coping style was assessed via the COPE (Carver et al., 1989), distinguishing between problems focused, emotion focuses and avoidant coping styles and their respective strategies.

Results: The overall perceived stress levels reported by the students in the sample were fairly low. The most important stressors were uncertainty about the future and self, with parents, relations, peers and university scoring lower. Students from low SES experienced more problems related to self and university than high or middle SES students, but did not differ in coping styles. However, in terms of strategies they more often use suppressing of competing activities, venting emotions, and behavioral disengagement, and seek less emotional support. While no significant gender differences were found for perceived stress levels, female students made more often use of emotion-focused coping.

Conclusion: While the cultural context differs, the problems that are encountered by Peruvian university students and the coping styles they apply are comparable to those of American and European students.

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INSPECTORATE OF YOUTH HEALTH CARE: AIMING FOR HIGH QUALITY SERVICES

**Van Leerdam F., Wentzel H., Van Schaik D., Pachen V.,
Reulings P., Van Wijngaarden J.**

Background: Purpose

The Dutch Youth Health Care Services (YHC) monitors the physical, psychosocial and mental development of all children and early detects risks. The Dutch health care inspectorate supervises YHC. In 2008 the inspectorate assessed the quality of YHC including the most urgent threats to child safety in the Netherlands and some organizational requirements. The inspectorate concluded the quality of YHC, although not bad, could and must be improved. In 2011 the inspectorate repeats this assessment.

Aim: Aim is all YHC will comply up to the standards.

Patients and methods: All YHC organizations had to complete a web based questionnaire. The inspectorate visited some random organizations for validation of the questionnaire and control of accuracy. The answers were rated according to a predefined framework (based on legal requirements and professional guidelines). Organizations that fail to meet minimal standards are made compulsory to improve their quality of care.

Results: Regulatory framework

The regulatory framework includes the topics/themes:

- coverage (does YHC reaches all children)
- check-up scheme (does YHC see children according to the check-up scheme)
- early detection of psychosocial problems
- use of evidence based interventions
- child abuse
- female genital mutilation
- obesity
- participation in school-networks
- participation in transmurial cooperation
- digital patient records
- monitoring of care

Conclusion: YHC is constantly developing and improving. Not only must YHC constantly adapt to changes, but also remains a stable and reliable organization that provides high quality public health to children and their parents. This investigation aims to contribute to the improvement of YHC and adds to a safe and healthy childhood for children in the Netherlands. The inspectorate will stimulate, and if necessary enforce, that YHC meets up to the standards.

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PROMOTING ORAL HEALTH IN PRESCHOOL CHILDREN: IMPLEMENTATION FIDELITY OF A MULTICOMPONENT INTERVENTION IN A PRIMARY HEALTH CARE SETTING

Vandenbranden S., Vandenbroucke S., Leroy R., Declerck D., Martens L., Hoppenbrouwers K.

Background: Oral health promotion campaigns have been developed in many countries. However, often the process of intervention of these campaigns has not been evaluated. Hence little information is available about the conditions under which a successful dental health promotion programme can be implemented.

Aim: This study was set up in order to evaluate the process of implementation of a longitudinal intervention programme that promoted oral health in preschool children in Flanders, Belgium. As this programme was implemented in an existing primary care organization, the study also evaluated this setting as the context for implementation.

Patients and methods: Qualitative as well as quantitative methods were used to evaluate implementation fidelity. Questionnaire data from participants and health workers were statistically analyzed and document analyses were performed to compare the registered actions with the planning manual.

Results: Attendance was high, with on average 77% of all participants present at each scheduled contact moment of the intervention. Adherence to the program manual was quite good, as on average 52 and 72% of all attending families received respectively all materials and information as described in the manual. Moderating factors like a good use of facilitators, high participant responsiveness and high quality of delivery had a positive influence on implementation fidelity.

Conclusion: Overall the program was implemented with high fidelity. Implementing a program in an existing well-baby program has many advantages but there are some threats too. The results of this process evaluation can contribute to a better understanding of the (lack of) success of intervention programmes.

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STUDENTS FREQUENTLY ABSENT FROM SECONDARY SCHOOL FOR MEDICAL REASONS BY YOUTH HEALTH CARE PHYSICIANS

Vanneste Y., Feron F., Sachse H.

Background: In the last ten years the international focus on reducing drop-out rates increased significantly. Highschool graduation provides social and economic well-being. In the Netherlands, the approach focuses on school absence, because a connection has been proven between repeated school absence and drop-out. Youth Health Care aims in particular at the absences recorded as «medical» in secondary school, because we hypothesize it is frequently associated with psychosocial problems.

Aim: Students with a high rate of medical absence have a higher risk of drop-out and are hard to approach. The objective of M@ZL is to limit school absence for medical reasons on secondary school and to support students to find their way back to school.

Subjects and methods: A qualitative research by semi-structured interviews of people who bring this approach into practice and investigation of the satisfaction experienced by the students and their parents, by the use of questionnaires. Quantitative survey using routinely collected data and case studies at both individual and collective level, using a link of data files, to measure the association with psychosocial problems and the effectiveness of the project on the scale of medical absence.

Results: This approach is very successful in reaching a group of students who are at risk of drop-out. Students, parents and professionals are satisfied by this new way of approaching school absence. Evaluation showed that over 60% of the registered students had psychosocial problems and that their medical absence was reduced by 63%. The extent of medical absence during the school period was reduced with 1,13 days of medical absence per student per year.

Conclusion: The M@ZL-project is successful in reducing medical absence from secondary school. Medical absence in secondary school is frequently related to psychosocial problems. The M@ZL project is an effective intervention for children highly at risk.

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**MAINSTREAM EDUCATION OF CHILDREN
AND ADOLESCENTS WITH A CHRONIC
CONDITION: REMOVING BARRIERS BY USING
THE INTERNATIONAL CLASSIFICATION
OF FUNCTIONING**

Vantrimpont I., Hoppenbrouwers K.

Background: Acknowledgement

Project supported by the Delacroix Foundation

Children and adolescents with a chronic condition suffer from important barriers in mainstream education. The lack of standardized procedures to translate a medical diagnosis into individual educational and participation needs is a major issue precluding optimal integration in mainstream schools. The International Classification of Functioning (ICF) is an internationally recognized framework, offering school- and student health professionals the possibility to bridge the gap between a disease diagnosis and educational needs.

Aim: Development of an ICF-based framework for school – and student health services, aiming at the assessment of individual educational and participation needs of chronically ill schoolchildren and students.

Patients and methods: A guideline development as outlined by the Flemish Society for Youth Health Care was used, including systematic literature review, clinical expert advice, focus sessions with parents, educational and pupil guidance professionals and medical doctors, and written surveys with children with a specific chronic condition and their parents.

Results: The presentation will focus on how ICF can be used to demolish the barriers regarding participation in mainstream education of children and youngsters with a chronic condition. The consecutive steps, from identification of relevant ICF-clusters, over the translation of chronic disease labels into (ICF-based) potential functional restraints, to the detailed definition of measures to be taken in education to overcome the functional restraints for a specific child or student, will be discussed. The outline and functioning of a computerized tool, developed according to ICF- framework, will be illustrated for children with epilepsy.

Conclusion: The use of ICF, in school- and student health care is a very promising approach to support professionals to achieve optimal education for schoolchildren and students with a chronic condition.

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**DOES THE TYPE OF THE FAMILY HAVE
AN INFLUENCE ON ADOLESCENTS?
SIMILARITIES AND DIFFERENCES
IN ADOLESCENTS WITH REGARD
TO THE TYPE OF THEIR FAMILY**

**Vecek A., Vidovic V., Milicic J., Spoljarvrzina S., Vecek N.,
Archvecek B.**

Background: Family structure has recently substantially changed. Single-Parent families are becoming more common today.

Aim: The purpose of this paper is to investigate whether this new family structure has any bearing on the physical and psychological development of adolescents.

Patients and methods: The sample of 200 adolescents from secondary schools in Zagreb (Croatia) 128 from nuclear families and 24 from single-parent family were analyzed. For the analysis of psycho-physical status, we used BMI and OSIQ (Offer Self-concept Questionnaire-Offer self-image test).

Results: We have concluded that there are no differences in the physical development between the adolescents who are growing up in single parent families and those growing up in nuclear families. There is no difference in the self-concept between these two groups, except in the ethical and moral self-image of adolescents living with one parent. Adolescents living in single-parent families have a weaker moral self-image.

Conclusion: It can thus be concluded that physical development and positive self-concept (a favorable image of oneself) in adolescents do not depend on whether an adolescent is growing up in single-parent or nuclear family, but on the different characteristics of parents and their relationship with children, whether they are married or not. A harmonious marriage is the best foundation for the development of children.

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IMMUNISATION TECHNIQUES IN INFANTS AND TODDLERS: A COMPREHENSIVE EDUCATIONAL VIDEO FOR HEALTHCARE WORKERS ADMINISTERING VACCINES FOR THE FLEMISH GOVERNMENTAL ORGANIZATION CHILD AND FAMILY

Vekeman V.

Background: Each year a group of 67.000 children are immunised by the physicians of the governmental organization Child and Family in Flanders. A proper immunisation technique is important to reduce pain and adverse reactions and favors the efficacy of the vaccine and the healthcare provider – client relationship. A comprehensive educational programme is not available in Flanders. Based on the experiences of a pilot training program of nurses in immunization practices a web-based course «Immunisations» was developed. This course is including short training videos that focus on the skills and techniques needed for vaccine administration and communication with the parents. It provides the evidence-based and best practice information for physicians and nurses who administer immunisations to infants and children.

Aim: To develop a new tool in the intensive training of a large cohort of health care workers in proper immunisation techniques.

Subjects and methods: Based on a pilot training programme of 8 nurses, a web-based course on Immunisations was developed.

Results: A comprehensive educational programme including video fragments to teach the skills and techniques of child immunisations.

Conclusion: The web-based course « Immunisations» is an important tool in the intensive training of a large cohort of health care workers in immunisation practice skills.

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BLOOD PRESSURE ASYMMETRY IN YOUTH: WHAT DOES IT MEANS?

**Venevtseva Y., Melnikov A., Samsonova G., Klueva Y.,
Ljashenko C.**

Background: University students are at risk of cardiovascular diseases.

Aim: The aim of the study was to examine significance of blood pressure (BP) asymmetry in healthy university students

Patients and methods: 120 students 18–20 years (60 male, M and 60 female, F) were included. BP was measured twice (left/right hand) at 10–12 a.m. All students underwent psycho physiological testing. Time-domain and frequency-domain heart rate variability (HRV) parameters were determined from 5-min. records. Pearson correlations were calculated between systolic and diastolic blood pressure difference (BPD) and other parameters.

Results: According casual BP value students were divided into 5 groups: 100–109, 110–119, 120–129 (21% of F and 22% of M), 130–139 mm Hg (7% of F and 30% of M) and > 140 mm Hg (5% of F and 27% of M). In 6,7% of F and in 13,3% of M systolic BPD lay in 10–15 mm Hg range, in 20% of F and 27% of M was > 15 mm Hg.

In the whole group systolic BPD correlated with mental skills impairment and psychological problems. In M group with optimal BP (< 120 mm Hg) significant direct correlations were found between systolic BPD and self-reported difficulty in the study and inverse – with power of low frequency (LF) band of HRV; in F group – between diastolic BPD and social problems with teachers. In M with BP 120–129 mm Hg systolic BPD correlated with power of LF band ($r = 0.67$, $P < 0.01$) and smoking habits/rate ($r = 0.50$). Diastolic BPD associated with gastrointestinal impairment (eructation, heartburn, $r = 0.53$), vision problems ($r = 0.50$) and time deficit ($r = 0.55$). The last relation exists in the next group (130–139 mm Hg). Correlation between systolic BPD and gastrointestinal problems was found in M group with elevated BP (> 140 mm Hg).

Conclusion: Casual systolic and diastolic blood pressure difference > 10 mm Hg may be used as nonspecific sign of maladaptation, especially in young men.

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PHYSICAL DEVELOPMENT
AS AN INDICATOR OF URBAN
AND RURAL CHILDREN'S STATE HEALTH

Verbenko M.

Background: At present children's health state aggravation causes a grounded anxiety. Lately, physical development remains children's health state main criterion. The purpose of this work was to estimate physical development characteristics as the indicators of urban and rural children's health state.

Subjects and methods: 247 children aged from 5 to 7 have been examined and the somatomatric indicators have been defined. Medical records data have been used and the surveys among the parents have been done.

Performed medical checks-up confirmed that compared to urban children a greater percentage of rural children belong to the 1st health-group. Children in the 3rd group are more numerous in urban areas, and this fact reveals the decrease of organism functional capacity.

Results: The quantity of boys with functional disorders exceeds the girls' one. After comparing both sexes it has been defined that the proportion of girls from the 3rd health group is less than the boys' one, which indicates a smaller number of chronic diseases among girls. The analysis of 5–7 year-old girls anthropometric indicators dynamics is bigger than those of the boys'. The greatest increase of urban boys' body length is more than the one of rural boys' while the situation among the girls is vice versa. Body mass index comparison of urban children is significantly higher than rural girls' and boys' one. Defined differences account for higher motion activity of rural residents compared to urban residents' one. Besides, urban children devote much of their free time to playing computer games in contrast to rural children, who spend less time on that activity.

Conclusion: According to the results of the conducted correlation analysis, a negative connection between residence and duration of stay in the open air ($r = -0,205$, $p < 0,005$) and occupation with the computer ($r = -0,160$, $p < 0,03$) has been defined.

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MEDICAL-PSYCHOLOGO-PEDAGOGICAL
ACCOMPANIMENT IN THE SYSTEM
OF PERSONAL-ORIENTING EDUCATION
IN THE SCHOOL OF THE CAPITAL CITY
OF MOSCOW

Virabova A.

Background: In the system of education in Russia with the help of scientists and practical workers the culture of child's support and helping in educational up-bringing process is being formed: the medical-psychology-pedagogical accompaniment (MPPA). The MPPA system deals with the problems of overcoming difficulties in education, and also includes the tasks of maintaining successful socializing, health saving and strengthening, the defense of children's rights.

Aim: We have substantiated hygienic principles with the estimation of organism functional state and children's health changing in the process of health saving personal oriented education.

Subjects and methods: Medical services include: annual clinic examination of all children by 7 particular specialists, clinic-laboratory check-up; catarrhal and viral prophylaxis; phyto-prophylaxis and phytotherapy; vitamin-prophylaxis; therapeutic massage; mouth cavity care; diet (according medical prescriptions); physiotherapy treatment; building up the motivation to healthy way of living.

Results: Health saving pedagogical technologies provides the high level of children's efficiency, with the increase of speed and quality of proof tests fulfillment with the improvement of qualitative indices of mental efficiency.

Sano-genetic monitoring reveals predominance of the children with balanced and high enough level of functioning of cardio-vascular, breathing systems, metabolism, absence of the children with the rating of «functional tension» in the state of myocardium, variability of cardiac rhythm, blood pressure and psychomotor coordination, correlative connection between the sex and the vegetative coefficient characterizing the efficiency of the child.

Conclusion: The carried out complex research shows remarkable health saving effect of MPPA of pupils in the system of person-oriented education.

286 SEXUAL ORIENTATION AND BEHAVIOUR AMONG FINNISH UNIVERSITY STUDENTS

Virtala A., Kunttu K., Huttunen T.

Background: Sexual behavior is at the centre of students' lives and well-being.

Aim: To investigate sexual orientation, age of the first sexual intercourse, and sexual activity among Finnish university students.

Patients and methods: The target group consisted of Finnish undergraduate university students less than 35 years of age. The sample was 9967 students (45% male). The data was collected in 2008 by postal questionnaire. The response rate was 51%. (FinnishStudentHealthSurvey2008Summary <http://www.fshs.fi>)

Results: See Tables 1–3.

Table 1. Sexual relationship and sexual orientation

	Men		Women	
	N	%	N	%
Stable sexual relationship	1832	60.8	3198	69.8
Sexual orientation	1825		3175	
– heterosexual	96.9		94.6	
– homosexual	1.2		1.0	
– bisexual	1.9		4.3	
Times of living in an open marriage, marriage, or registered partnership	1832		3196	
– never	50.5		40.6	
– once	40.6		47.4	
– twice	7.5		10.5	
– three	1.3		1.4	
– four	0.2		0.1	

Table 2. The age of first sexual intercourse (%)

	Men (N = 1604)	Women (N = 2875)
under 12	0.3	0.1
12–14 years	5.1	10.5
15–16 years	23.9	31.7
17–18 years	36.9	35.7
19–31 years	33.8	22

Table 3. Frequency of sexual intercourse over the past month (%)

	Men (N = 1816)	Women (N = 3163)
never	31.4	26.3
less than once a week	25.4	27.2
once or more a week	43.1	46.5

Conclusion: Finnish university students were sexually active. Even if a vast majority of them were heterosexual, health care providers should take into account possible homosexual orientation in clinical practice. The mean age of the first sexual intercourse was 17 years among women and 18 years among men. Some reported intimate sexual relationships at a very young age or during middle adolescence which may indicate an experience of sexual abuse or other problems in adolescent development. Sexual health education in schools is needed.

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DIFFERENCES IN PARENTING STYLES BETWEEN DUTCH AND TURKISH PARENTS IN RELATION TO LIFESTYLE AND BMI

**Vlasblom E., Nawijn L., De Wilde J., L'Hoir M., Crone M.,
Körfker D.**

Background: Currently 33% of Turkish children who are living in the Netherlands are dealing with overweight and 8% are dealing with obesity. In comparison, the prevalence of overweight and obesity is much lower in Dutch children (14% and 2% respectively).

Previous research has shown that an authoritative parenting style is related to a healthier lifestyle and a lower risk of overweight and obesity. To date, little is known about differences in parenting styles between Dutch and Turkish parents who are living in the Netherlands.

Aim: The aim of this study is to obtain more information about the relation between parenting styles of Turkish and Dutch parents and the weight of their children.

Patients and methods: Ten schools in a large city in the Netherlands (Den Haag) decided to participate in this study. Dutch and Turkish parents of four to eight year old children were given a questionnaire. The questionnaire was available in Turkish and Dutch and both the father and the mother were asked to fill in a questionnaire.

Results: The collection of the data is still in process. At the moment, 126 Dutch and 69 Turkish children were included in the analysis.

BMI

According to the reports of parents, the Turkish children have a significantly higher BMI ($M = 17,6$) than Dutch children ($M = 15,6$).

Parenting styles

There is a significant difference in parenting style between Dutch and Turkish mothers. Turkish mothers use a neglectful parenting style more often than Dutch mothers. There are no significant differences between the parenting styles of Dutch and Turkish fathers. However, when fathers use an authoritarian parenting style, the BMI is significantly lower than when fathers use a permissive parenting style.

Parenting behavior

Dutch parent monitor eating and activity of their child more than Turkish parents. Turkish parents more often use control and they also reward healthy behavior more than Dutch parents.

Conclusion: The preliminary results indicate that there are differences in parenting styles between Dutch and Turkish parents.

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**CREATION OF CONDITIONS FOR
PRESERVATION AND STRENGTHENING
OF SCHOOLCHILDREN'S HEALTH
IN FULL-DAY SCHOOLS**

Voronova B., Sazanjuk Z., Shumkova T.

Background: During the last years more and more full-day schools appear in which there is a possibility to integrate the additional education into general one. The prolong stay of children in the school and increase of school loads can have also negative consequences for children's health. It makes actual the creation of favourable conditions for their education and training promoting the sanitation of children.

Aim: To justify the conditions for preservation and strengthening of schoolchildren's health in full-day schools.

Patients and methods: A three year dynamical studies of the functional state of the body and health state of over 580 students in 1–7 grades and the estimation of intraschool environment with the organization of school nutrition were carried out in full day schools.

Results: It was found that a school load of children in full-day schools basically corresponds to their age possibilities and does not lead to the overfatigue. The findings allowed proving scientifically the hygienic requirements for the organization and functioning of such schools. The key hygienic requirements for the organization of children's education in full-day schools consist of the observation of age regulations of school load, the duration of additional lessons.

The emphasis is in the creation of the conditions for the realization of motor performance of children within school building and school yard. It provides enough duration of walks during the second part of day and dynamic break between lessons.

Conclusion: To prevent the neuro-psychical disorders and create psychological comfort there should be places for quiet rest, individual lessons.

The emphasis is the organization of rational school nutrition.

Medical service should control the maintenance of regime of school lessons, amount and ratio of school nutrition, carrying out of health events.

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INTERACTION BETWEEN HEALTH STATUS OF CHILDREN WITH HEARING AND VISUAL DISORDER AND INTERSCHOOL ENVIRONMENT

Vrublevskaya N.

Background: Increase of amount of children with sensor infringements, deterioration of their health considerably intensified urgency of studying of conditions of education those children with sensor infringements.

Aim: revealing of communications between health status and complex of interschool risk factors.

Patients and methods: The methods of research: hygienic, physiological, somato-metrical, sociological and statistical. The influence of complex environmental factors on health of 265 children with sensor infringements during the educational process in special general educational institution of different types was established.

Results: The most sensitive systems to action of interschool risk factors were osteomuscular and respiratory systems that confirmed by degree of interrelation of functional indicators with factors of training conditions (χ^2 –28,9 and 22,7 accordingly, $p < 0,001$).

The increase of amount of children with pathology of osteomuscular systems was linked to defect of physical activity organization, static orientation of the majority of lessons, the wrong organization of the ground area promoting hypodynamia at schoolboys (χ^2 –18,1, $p < 0,001$).

The correlation between hypodynamia and interschool risk factors (defect of nutrition organization, equipments of school premises, organization of medical support) to disharmonious of physical development of schoolboys were proved (χ^2 –9,78; $p < 0,01$).

The complex impact such interschool risk factors as discrepancy of hygienic requirements of the organization of educational process and physical training (expressiveness of risk – 23,5% and 56,9% accordingly), equipments of school premises without specificity disabling defect (expressiveness of risk – 36,8%) promoted of increase of vegetative liability of pupils (χ^2 –16,5; $p < 0,001$).

Conclusion: The received results testified about statistically authentic communication of children's health and interschool environment.

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AN ANALYSIS OF THE INTEGRATION OF CHILDREN WITH SPECIAL NEEDS INTO ADEQUATE TYPES OF EDUCATION IN DJURDJEVAC AND NEIGHBOURING VILLAGES

Vuljak – Vulić J.

Background: A lot of children with special needs have been neither identified nor taken care for. Research shows that many children stopped going to school and possibly suffer because of undiagnosed disabilities. Educational and rehabilitation procedures are insufficient and unavailable for the children who need them and who are entitled to them.

Aim: To examine the identification, registration and follow up of Children With Special Needs

Subjects and methods: Complete medical documentation and sociological criteria were analyzed with special emphasis on disability type and adequate type of education for the integration of these pupils. Based on a medical and statistical analysis of 420 statements of special needs from 6 Primary Schools, in Djurdjevac and its neighbouring villages from 1.9.1997 to 31.12.2010 were analysed.

Results: During the study the number of pupils in the 6 primary schools fell by 422 from 2787 in 1997 to 2365 in 2010. The statement of adequate education was issued to 420 pupils from 7–15 years old. 126 pupils were from Djurdjevac itself and 294 from surrounding villages. 64,8% of pupils who got the statement had multiple disabilities. The following rates per type of disease were identified: speech, language, literacy (44,0%), mild mental retardation (32,6%); mild attention deficit (24,8%); medium to severe mental retardation (15,5%).

The adjustments were the following: adjustments to environment (61,0%); regular curriculum with individual assistance (16,6%); special curriculum (21,9%); permanently deferred (0,5%).

In total, 44% of fathers and 45,5% of mothers had not completed primary education. Of 42 pupils who got the statement, 38,8% were born as third child or higher in birth order. An interesting observation is that 10,5% of pupils (Roma) neither understood nor spoke Croatian before starting school.

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**A REMINDER OF THE APPOINTMENT
IN ORAL HEALTH CARE OF FINNISH
STUDENT HEALTH SERVICE**

Vuorinen A., Komulainen A.

Background: The unconcealed appointments are a problem and a big cost in the public health care services all over the world. In the year 2008 at oral health care of FSHS 3,0% of all appointments were unconcealed. These uncanceled appointments represent together over 1700 of consultancy hours, which means that one dentist and one dental nurse waited for a patient during 14 months. Can we do something to cut down the uncanceled appointments?

Aim: Our aim was to forge a system that we could remind the students of their appointments by email or text message. This way dental care would be more effective and more patients could be treated with the same costs and personnel.

Patients and methods: We choose two biggest offices of FSHS, Helsinki-Espoo and Tampere, for a pilot project. Every students in Finland have an email address and mobilephone. In Helsinki the students got a reminder by text message and in Tampere they got it by email two working days before the appointment. This pilot project extended from April to December 2009. We wanted to compare these two methods because reminding by email was substantially cheaper.

Results: After the system was integrated to our data system it extracted automatically the appointments overnight and sent a reminder exactly two working days beforehand. There were sent 24999 text and 6785 email messages. During the pilot project the unconcealed appointments decreased clearly compared to the year 2008 or the other offices. There was some difference between the text message and email reminder, but it was not statistically significant.

Conclusion: The system worked technically very well. The staff and the students were satisfied with the service. This project proved that we are able to remind the students of their appointments easily, with very low costs and as a result of this they either come or cancel the appointment.

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VALUE REFLECTED HEALTH EDUCATION IN PRIMARY SCHOOLS

Wistoft K.

Background: The purpose of this paper is to illuminate the impact of a value-reflected approach in health education in primary schools by demonstrating the nature of professional competence development connected to this approach.

Patients and methods: The study is based on experiential knowledge from two three-year development projects at 40 primary schools in Denmark: 12 schools located in the municipality (Copenhagen) and 28 schools located in a provincial city (Randers). The projects were running for the period of 2004–2009 by partnership of researchers and 30 school health nurses. This study concentrates in the Public Health Centres where the school health nurses joint in workshops with the researchers. The general objective is reflection on competence development, for one thing pedagogical and reflective competencies of the nurses for another health reflective competence among the school children. The design is experimental and integrated creative method development and testing. Data are collected through participant observation (N = 24), individual interviews (N = 16) and a questionnaire survey (N = 67). The nurses answered questions regarding their own gain and pedagogical competence development twice in the process.

Results: Traditionally, health care motivate children to live in a prescribed healthy manner. By contrast this study investigates children's and adolescents' learning and competence development related to their own values and the values of their friends and families. Health is conceptualised to the children's self-esteem and positive self-pictures. For many of the children a healthy life means courage to changes the things they can, and wisdom to know the difference. This value reflected perspective requires that the school nurses acquire better teaching competence in order to navigate where 'human values' and values deriving from bio-medicine and their own background of nurse education co-exist.

Conclusion: Values clarification and reflective teaching competences support school health nurses in working pedagogically with the health of school children.

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**ASSOCIATION BETWEEN SKULL
DEFORMATION IN INFANTS
AND VITAMIN D DEFICIENCY DURING
PREGNANCY AND EARLY CHILDHOOD**

**Weernink M., Van Wijk R., Groothuis-Oudshoorn K.,
Van Vlimmeren L., Lanting C., Boere-Boonekamp M.**

Background: Skull deformation due to a positional preference can occur in infants because their cranium is malleable and growing fast especially in the first months of life. Since vitamin D is known to be important for the intestinal absorption of calcium and bone mineralisation, it has been suggested that vitamin D deficiency can increase the risk of skull deformation.

Aim: This case-control study investigates the relationship between vitamin D intake in the third trimester of pregnancy (mother) and in the first months of life (infant) and skull deformation in 2–4 month old infants.

Patients and methods: 275 2–4 month old cases with mild to severe skull deformation from the Helmet Therapy Assessment in Deformed Skulls (HEADS) study were compared with 548 matched controls. A questionnaire was used to collect information on background characteristics and vitamin D intake (food, time spent outdoors and supplementation).

Results: A multivariate model showed that 2–4 month old infants of mothers with an insufficient intake of vitamin D during the last trimester of pregnancy were 1,5 times more likely to have a skull deformation (aOR 1.5; 95% CI 1.1–2.1). The effect of insufficient vitamin D intake in early childhood (aOR 3.0; CI 0.89–10.0) was approaching significance ($p = 0.078$). Other significant ($p < 0.05$) risk factors were male gender, shorter pregnancy, delivery in hospital for medical reasons, younger age and low level of education of the mother.

Conclusion: Insufficient vitamin D intake in the third trimester of pregnancy was observed rather frequently. Vitamin D intake in newborns appears adequate in almost all children in The Netherlands (in 97,0% of the cases and 99,1% of controls). Our findings suggest that an insufficient vitamin D intake was associated with the risk of skull deformation in 2–4 month old infants. This supports the importance to promote a lifestyle with a sufficient vitamin D intake in pregnant women.

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**PREVALENCE OF ARRHYTHMIAS
AND CONDUCTION OF THE HEART,
REVEALED DURING CLINICAL EXAMINATION
OF NINE-YEAR-OLD CHILD****Yakovleva V., Trefilov A.**

Background: Timely medical examination of the child population to evaluate the health status and identify risk factors for diseases of the cardiovascular system that gave rise issuance of order of the Ministry of Health of the Chuvash Republic № 293 of 2010.03.18. On clinical examination of children aged 4, 9 and 10 years.

Aim: To study the prevalence of cardiac arrhythmias and conduction microanomalies ECG in nine-year-old children.

Patients and methods: In 2010, we analyzed 1371 electrocardiograms (ECG) in 666 boys and 705 girls born in 2001. The study was performed by the standard ECG MAC 500 (U.S.).

Results: The survey revealed the following changes: the migration of a pacemaker – 79 cases (5,8%) prevailed in boys 6,3%, atrial ectopic beats – 127 (9,3%), more frequently in boys 11,1% (girls 7,5%), extrasystoles – 7 (0,5%), prevailed in boys 0,8%, the phenomenon of WPW – in 1 female (0,07%), atrioventricular block of 1 degree – 11 (0,8%), more common in boys – 7 (1%); incomplete blockade of right bundle branch block – 79 (5,8%), more frequently in boys – 8,4% (girls 3,5%) blockade of the anterior branch of the left bundle branch block – 7 (0,5%), prevalent in boys – 8,4% (0,28% girls); microanomalies ECG – the phenomenon of shortening the interval PQ – 9 (0,7%), most often girls – 0,8% vs. 0,4% of boys and early ventricular repolarization syndrome – 75 cases (5,5%) was observed in 6,8% of girls (boys 4%). According to the study ECG changes were detected in 29% of children. In the structure of diagnosed diseases were leading the boys (61%).

Conclusion: As a result of a screening study established the high prevalence of arrhythmias and conduction of the heart and ECG microanomalies children nine years old, with a predominance of boys, which leads to the need for ECG during clinical examination of children in this age group.

295 USING OF COMPUTERS BY STUDENTS AT HOME

Yanushanets O., Trofimov A.

Background: The residence time at the computer adolescents is increasing. This may be the cause of the deterioration of their health and determine the relevance of the study.

Aim: Estimated duration of use and types of work at a computer at home and their impact on health of schoolchildren.

Patients and methods: 132 adolescents aged 15–16 and 124 children aged 9–10 years were conducted surveys to identify complaints about their health and 2-week monitoring, using a computer at home.

Results: Only 4,8% of children not have computer at home. Mode the computer does not perform 100% of children in both age groups. In the group of children aged 9–10 years the average time of computer using is $2,2 \pm 0,1$ hours, in the group 15–16 years — $3,06 \pm 0,1$ hours. $37,9\% \pm 8,6$ (at $P(t) = 095$) children from 9–10 years and $43,3\% \pm 8,6$ (at $P(t) = 095$) adolescents stay on computers 3 hours or more. $14,4\% \pm 6,1$ (at $P(t) = 095$) adolescents spend on computers 5 and more hours.

The remaining students spend on computers at home from an hour to two hours. Evaluation of occupation on the computer showed that 93% of the time children of 9–10 years spend on games, and 5% for communications in social nets and only 2% to perform school tasks. Older students 78% of time spent on communication networks, 14% on games, and 8% for the implementation of school homework. Health assessment established that students working on the computer three or more hours have more aesthetic-neurotic complaints, the most frequent of which are: sleep disorders, headaches, fatigue in the classroom. Adolescents, that staying on computer more than 5 hours, in addition complains on physical nature.

Conclusion: The study showed that in healthy lifestyles teaching of children and parents, problem of uncontrolled using of computers by children at home must become relevant.

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GENDER AND AGE CHARACTERISTICS OF DISABLED CHILDREN AND TEENAGERS' HEALTH IN TATARSTAN REPUBLIC

Yunusova A., Valeeva E.

Background: The main national aims of the health care and social development system at the current stage are improving population health, developing the ways of illness and disability prevention, the extension of rehabilitation, introducing modern high effective medical and health caring technologies.

Aim: Analysis of child disability in the RT.

Patients and methods: The objects — are children stated as disabled for the first time at the age from 0 to 18 years old.

The method is statistical.

Results: According to the data of FSO «The Head Office of medical and social examination in Republic of Tatarstan» it was stated that during the period of 2005–2009 the central nervous system diseases of boys and girls at the ages from 0 to 3 are on the second place (25,5% and 27,8% respectively). The lowering of these health problem by 1,2 (14,3%) among girls and by 1,3 (21,2%) among boys can be observed during the period of 2005–2009.

Among disabled girls at the ages from 4 to 7 this health disorder is on the fourth place (11,2%), and among boys is on the second place (13%). For the same period of time the same sickness rate dropped by 1,3 times (25%) among girls, but among boys it increased up to 0,9 times.

Among disabled girls from 8 to 14 this kind of health problem is on the fifth place (6,4%), while among boys is on the fourth place (7%). The decrease of the mentioned above health disorder among girls by 1,8 times (44,4%) and among boys by 1,6 times (36,7%) has been recorded for the last five years.

Among handicapped girls at the age of 15 and above this nervous system disease is on the fourth place (17%) and among boys is on the fifth place (13,6%). The fall in the number of cases among girls down to 3,5 times (71,4%) and among boys down to 1,3 times (22,7%) has been observed for the period of research.

Conclusion: The decrease in disability in this group of central nervous system diseases has been recorded among children from 0 to 18 years old. Probably, the drop is connected with early diagnostics.

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PHYSICAL DEVELOPMENT OF PRESCHOOL AGE OF SAKHA REPUBLIC (YAKUTIA)

Zakharova N., Khandy M., Burnasheva Z.

Background: The main health condition criteria of a growing body are a physical development which level is closely connected with a social, economic and hygienic life conditions.

Aim: The study of the physical development of preschool age children of the Sakha Republic (Yakutia).

Patients and methods: The somatomethric indexes of the physical development of the 1659 children at the age from four to seven attending preschools of the Sakha Republic were determined by the conventional method.

Results: The morphofunctional conditional analysis has shown that 80,5% preschool age children have an average physical development, 10,1% have a lower-middle physical development and 9,1% of the children have higher physical development. Girls who have the average and higher physical development are more than boys. While, harmoniously developed children are offend met by boys. 58,5% of the examined children have a harmoniously physical development, 25,4% have a disharmoniously development and 16,1% have a sharply disharmoniously physical development. The comparison of the own researches and datas received by A. M. Zakharova (1976) can be analyzed the dynamics of the somatomethric indexes of the modern preschool age children of the Sakha Republic (Yakutia). In this case was revealed that there were not any significant changes in the physical development: increasing of the longitudinal growth, increasiry of a body weight in most cases are statistically doubtful. It should be noticed that it there is no a positive dynamics in height and weight parameters of the body according to the circumference of the chest, there is a tendency of the size reducing of the chest circumference ($p < 0,05$).

Conclusion: Physical development of preschool age children are characterized by the presence of the retardation processes, while there is a body «gracilization». The children of the Sakha Republic (Yakutia) have a first «growth jump» at the age of seven.

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POSSIBILITY OF EARLY DIAGNOSTICS OF METABOLIC SYNDROM IN CHILDREN

Zakharova I., Yablochkova S., Molotkova N.,
Andriukhina E.

Background: The problem of metabolic syndrome in children is currently discussed among specialists. The efficacy of treatment and the quality of life of such patients depend on the early detection of possible markers of metabolic syndrome that include anthropometric data, arterial blood pressure and such biochemical parameters as the level triglycerides and glucose in blood.

Aim: To improve the diagnostics of metabolic syndrome in children.

Patients and methods: We performed examination of 497 girls aged 10–17 years that included evaluation of their weight, height and abdomen circumference, blood pressure and biochemical markers.

Results: While calculating body mass index we have found that among 497 girls, 33 (6,6%) – had excessive weight, 8 girls (1,6%) had obesity. Abdominal type of fat tissue distribution was found in 9,1% of overweight patients and in 87,5% of girls with obesity. The full examination that included biochemical blood analyses was performed in 31 girls with excessive weight or obesity. Metabolic syndrome was diagnosed in 3 girls (10%), abdominal type of fat tissue distribution as one of markers of metabolic syndrome was found in 4 girls (13%), only abdominal type of fat tissue distribution – in 3 girls (10%). Fourteen girls (45%) had elevated levels of triglycerides in blood, 1 girl (3%) was found to have either high level of triglycerides and hyperglycemia. In two girls (6%) we found elevated levels of triglycerides in blood associated with elevated blood pressure. Four girls (13%) didn't have any markers of metabolic syndrome.

Conclusion: Diagnosis of metabolic syndrome in 10% girls indicates the need of special treatment approach, while girls from risk group for metabolic syndrome (with abdominal type of fat tissue distribution and abnormal biochemical markers) need optimization of preventive measures. Thus the results of our screening show the importance of early diagnostics of metabolic syndrome with the aim of optimization of preventive and therapeutics measures.

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**PARTICIPATION IN THE INTERNATIONAL
PROJECT AS A POSSIBILITY TO CHANGE
THE REAL SITUATION WITH ENVIRONMENT
AND CHILDREN'S HEALTH**

Zastenskaya I., Pronina T.

Background: Health status of children in Belarus become from bad to worse year after year. According to the State report of the Ministry of Health (2010), dynamics of children's disease is negative. In the structure of the general morbidity respiratory tract symptoms are particularly prevalent in children aged under 14 and it is average 76,4% from all children population. Respiratory diseases may be affected by range of environmental factors. For the purpose of assessment the indoor air quality in school our center was implemented the scientific projects 2004–2006 years. The most common chemical pollutants found indoors were formaldehyde, CO₂, PM; microbial-mesophilic aerobic and facultative anaerobe microorganism, mold fungi.

Aim: Improving indoor air quality in schools and children's health as well.

Patients and methods: In order to analyze potential exposure it is very important to obtain information about the characteristics of the school buildings, outdoor sources of pollution, the occupants' activities and the maintenance routines along with the health assessment.

Results: We suppose that it is a great opportunity to take part into the international project – School Environment and Respiratory Health of Children. The Regional Environmental Center for Central and Eastern Europe in collaboration with the Italian Ministry for the Environment will implement this project between 2010 and 2013. The research builds on the assessment of environment and health, energy use in the buildings and building materials based on data from the 10 countries including Belarus as well. The research topic corresponds to international frameworks – WHO Europe Children's Environment and Health Action Plan, which was endorsed in Budapest in 2004 and reconfirmed in Parma in 2010 at the Ministerial Conference on Environment and Health.

Conclusion: Healthy school environment can directly improve children's health and promote effective learning, thereby contributing to the development of healthy adults who will be skilled and productive members of society.

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THE PECULARITIES OF NUTRITION'S CORRECTION FOR THE ADOLESCENTS

Zhamlikhanov N., Gorelova Z., Chernova E.

Background: Children's organism needs a continuous supply of main nutrients as a source of energy and plastic materials for the health's preservation.

Aim: To develop the principles of nutrition's correction for the adolescents.

Patients and methods: Under the examination there were 3045 children at the age of 15–17 living in Cheboksary. Among them there were 1560 (51,2%) boys, 1485 (48,8%) girls; 102 children of which took part in the further thorough clinical and laboratory research examinations: 52 (50,9%) boys and 50 (49,1%) girls. The examinations were conducted three times: during a primary physical examination, a month later when a balanced diet of the main nutrients (proteins, fats, carbohydrates) was being kept and at last, a month later after the optimization of the nourishment.

Results: We've studied particular qualities of actual nourishment of the children at the age of 15–17. We've found out that there is some violation in the distribution of caloric intake in the main meals during a day. The analysis of food packages used by the families of different social groups for feeding their children shows that a structure of the average daily food includes all the main groups of food but the quantity of it isn't optimal and balanced. On the background of the correction of the nutritional status of children there was a positive dynamic. The average increase of the boys' weight was 4.5 kgs and of the girls' one — 8.5 kgs. The body mass index also rose accordingly to 19.1 among the boys and to 18.9 among the girls. The level of calcium, serum iron, phosphorus in the blood serum rose to the age-related physiological norms.

Conclusion: The optimization of the teenager's diet, the correction of such micronutrients as calcium and iron make an amount of nutrients be possible to reach the level of standards and helps to correct malnutrition and micronutrient disorders.

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AN EARLY DETECTION OF DEVIATIONS IN HEALTH STATUS OF THE CHILDREN WHO GOT IN A DIFFICULT LIFE SITUATION

Zhamlikhanov N., Skvortsova A.

Background: The prevention of different diseases of children and young people is important for improving the health of the adults.

Aim: An early detection of deviations in health status of the children who got in a difficult life situation.

Patients and methods: 280 children at the age of 10–17 (167 girls – 59,7%; 113 boys – 40,3%) have been thoroughly examined. Echocardiography, an ultrasound examination of abdomen and kidneys and ECG were performed using a standard method. The initial automatic tone was determined.

Results: 177 children – 63% had the violation of the cardiovascular system: the violation of the heart rhythm; 63 children – 22,5% had the violation of the excitation; 21 children – 7,5% had a change in T-wave and a displacement of the segment ST; 1 child – 0,4% had a hypertrophy of a left ventricular; 14 children – 5% had a prevalence of the potential both of the left and right ventricles; 280 children – 100% had minor abnormalities of the heart; regurgitation (on MV – 8,3%, on TV – 48,7%, on VPA – 67,9%, on VAO – 0,8%); 1,4% had a hypertrophy of LV walls. 13,6% had abnormalities of reactive nature in liver; 41,9% – in gallbladder; 10,1% had some reactive changes in pancreatic gland; 9% has abnormalities in spleen; 37,9% had abnormalities in kidneys. Anomalies are represented by different structures and functional abnormalities. Sex differences in the structure and functioning of the cardiovascular system and internal organs have been identified.

Conclusion: In this group there was seen a prevalence of small anomalies of heart, kidneys, gall bladder, a vagotonic type dysfunction feature which is an unfavorable background for the development of the target organs diseases. These children should be included into a risk group and their health should be restored.

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THE FEATURES OF THE PHYSICAL DEVELOPMENT OF PRESCHOOL, SCHOOL CHILDREN AND TEENS

Zhamlikhanov N., Sugutskaya G., Fyodorov A.

Background: Physical development is a leading indicator showing the state of the health of a group of children. An early detection of abnormalities in a physical development helps perform both individual and massive recovery activities in time.

Aim: To identify the features of the physical development of different age groups.

Patients and methods: An individual assessment of morphological, phisiometrical and somatoscopic features of physical development of 491 boys and 399 girls at the age of 3–4; 563 boys and 533 girls at the age of 9–10; 856 young boys and 848 young girls at the age of 15–16 in different educational institutions.

Results: In all age groups the majority of the children (72,5–87,8%) have a good physical development; in early age there are more boys (87,8%) among them; whereas at a secondary and senior school age the girls are more physically developed than the boys (girls – 74,8% and 84,1%; boys – 72,5 and 72,8%). Different forms of disharmonious physical development have been identified. For the girls of a preschool age in the families of social risk the underweight body (7,3%) is peculiar. As to the boys of this group they are usually higher than the girls (b. – 4,1%; g. – 2,0%). At the age of 9–10 schoolchildren have excess body weight (b. – 12,4%; g. – 8,6%) and much higher than they should be according to the norms (especially boys) though there are no chronic pathology (b. – 11,5%; g. – 8,2%). Rather often there is an underweight body among the girls (6,0%). At the age of 15–16 there is an excess body weight (b. – 9,8; g. – 6,1%) and high growth (b. – 13,6%; g. – 4,8%) There are more boys who have a genetic predisposition. Related functional declinations have been found in the group where the children have a disharmonious physical development (in 88,8%).

Conclusion: The process of physical development reflects general patterns of growth and development and depends on social, economic conditions, sanitation, genetic health, chronic diseases (if there are any), and violation of food, age and gender.

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INTELLECTUAL DEVELOPMENT AND SCHOOL PROGRESS OF PUPILS

Zhdanova L., Shishova A.

Background: Intellectual development (ID) is an important component for complex schoolchildren health evaluation. Its level mostly defines the successful adaptation to studying loads.

Aim: ID and school progress of pupils in the enrollment into primary school and in the transition to the beginning of various disciplines studying are characterized.

Patients and methods: ID of first form pupils (207 persons) and that of fifth form pupils (220 persons) were evaluated by pediatric variant of D. Veksler technique in Yu. A. Panasiuk modification. Adaptation to school loads was defined by evaluation of successful mastering of basic disciplines; then the correlation analysis of school progress and intellect level was made.

Results: ID individual analysis upon general intellectual index demonstrated that 72,1% of first form pupils and 69,4% of fifth form pupils had average level of mental development. Its delay or acceleration was marked with equal frequency in the others.

High and average meanings of verbal intellectual index and nonverbal intellectual indices were revealed in 79,7% of first form pupils and in 77,6% of fifth form pupils. Only in 4,2% of first form pupils and in 7,1% of fifth form pupils they had similarly decreased level. In 16,1% of first form pupils and in 15,3% of fifth form pupils these indices were disharmonic; one index had high level and the other one had decreased level.

The most part of schoolchildren with high and average ID had good progress. In 13% of such pupils progress was not so good. 40% children among all pupils with decreased ID had good progress. Poor progress in decreased mental power was marked in the fifth part of the pupils.

Conclusion: High frequency of children ID heterochronia and peculiarities of adaptive activity which are connected with it dictate the necessity of individualization of schoolchildren medical-and-pedagogical accompaniment in the process of studying in educational institutions.

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THE PREVALENCE OF CHRONIC
DISEASES AND FUNCTIONAL
DEVIATIONS AMONG PUPILS
FROM THE FIRST FORM

**Zhilaeva-Fomina E., Silkin Y., Chekalova N.,
Dovidenko R., Malinin V., Malih G.**

Background: The first year of school studding is extremely difficult period of change in a child's life. It is caused by a psychological, physiological, social (personality) school adaptation. The child's place in the system of social relations changes, the lifestyle also changes and psychoemotional load increases. The child's health is an important factor that determines the quality of a school adaptation period.

Patients and methods: The structure and prevalence of diseases have been analyzed. The analyze was carried out among 123 children of the secondary comprehensive school № 187 in Nizhny Novgorod, who began to study in 2010 year. Pupils from the first form have been examined by specialists of the School health-rehabilitation center of the town children's polyclinic № 48 (a pediatrician, an orthopedist, an ophthalmologist, an otolaryngologist, a neurologist). The prevalence and the structure of diseases were analyzed according to ICI-10.

Results: The morbidity rate was 2959,3‰. A significant difference between boys and girls was not revealed. The rate of functional deviations was 2227,6‰, the rate of chronic diseases — 731,7‰ (2,0 morphofunctional deviations and 0,7 chronic diseases on a child).

According to the ICI-10 the high level of the point prevalence is established in the XIII class of Diseases of the osteomuscular system and the connective tissue — the 1-st range in the structure (520,3‰). The 2-nd range — skin diseases (atopic dermatitis) — 97,6‰, the 3-rd — Diseases of the respiratory system (bronchial asthma and upper respiratory infections) — 40,7‰, the 4-th — Diseases of the endocrine system, nutritious and metabolism disturbances — 32,5‰, the 5-th — Diseases of the digestive system (chronic gastroduodenitis in state of compensation).

The prevalence of chronic diseases among boys was higher than among girls on 30%, because of diseases of the osteomuscular system and chronic diseases of digestive and respiratory systems.

Functional deviations of the osteomuscular system were on the 1-st range in the structure of functional deviations – (739,8‰), the 2-nd and 3-th ranges – deviations of the cardiovascular (471,5‰) and respiratory systems (365,9‰), the 4-th – deviations of the nervous system (308,9‰), the prevalence of deviations of eyes and digestive system was 195,1‰ and 154,5‰. Only girls had functional deviations of the digestive tract. The rate of deviations of nervous system was higher among boys (on 42%).

Conclusion: The results of estimation of health status allow making recommendations about optimization of treatment, to plan preventive work and make monitoring of children health.

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THE COMPARATIVE ESTIMATION OF MENTAL WORKING CAPACITY OF PUPILS FROM HIGH AND GRAMMAR SCHOOLS BY RESULTS OF PSYCHOPHYSIOLOGICAL TESTING**Zhukovskaya I.**

Background: Mental working capacity (MWC) is basic for successful training. Studying of the psychophysiological functions which characterizing working capacity of pupils is one of the basic methods of objective psychohygienical control of educational space.

Aim: The purpose of this work was to study MWC of the 130 eighth-graders from high school (HS) and grammar school (GS) of Minsk.

Patients and methods: The methods of psychophysiological inspection modified and automated in software of the personal computer were used (A. A. Baranov et al., 2004; D. A. Melnichenko, 2006). Testing was conducted in dynamics of the working day and week in the 3rd educational quarter. Intensity of attention (IA) was studied using proof assay and was expressed as a percentage ratio of correctly marked of letters to their total number. Mental rate of perception (RP) was characterized by an operating time with Shultz tables. Short-term memory was estimated on the base of storing of two-place numbers. The functional status of the visual analyzer was defined by latency period of simple visually-motor reaction (LP). Visually-motor coordination in dynamics of movement was estimated by coordination coefficient (CC).

Results: As a result of research higher level of functions of attention at eighth-graders of HS for working week was established: average IA was $92.9 \pm 0.79\%$ versus $85.4 \pm 0.92\%$ in GS ($p < 0.001$); RP was 38.2 ± 0.66 s unlike 41.9 ± 0.67 s respectively ($p < 0.001$).

Mobility of nervous processes also was better at teenagers from HS: average LP was 302.8 ± 5.8 ms versus 378.7 ± 11.0 ms in GS ($p < 0.001$). Psychomotor functions of HS-pupils were stabler too: averaged CC was $87.3 \pm 0.96\%$ versus $83.5 \pm 0.81\%$ in GS ($p < 0.01$), the number of misses – 9.1 ± 0.65 and 11.2 ± 0.48 respectively ($p < 0.01$).

Similar trends were marked in the school day dynamics.

Conclusion: Thus fatigue signs of pupils from GS were revealed. In order to prevent worsening of the schoolchildren health the educational load must satisfy to hygienic requirements and functional capabilities of children.

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HEALTH ASSESSMENT OF SCHOOLCHILDREN DURING EDUCATIONAL PROCESS STUDIED AT CAPITAL HIGH SCHOOL

Zhukovskaya I., Pronina T., Grekova N.

Background: National assessment in previous years has showed worsen children health

Aim: Children's health assessment during educational process

Patients and methods: Health status of 923 children aged 6–17 years at four base schools in Minsk was studied. Health assessment was performed by generalized unified methods with integrated estimation. The estimation of physical development (PD) was carried out by national tables of physical data and by scale Z-score

Results: It was established that functional conditions had 56,2% children, chronicle diseases – 35,0%; 8,8% were healthy. During training chronic pathology increased to 55,0%, $p < 0,001$. Total amount of functional conditions and chronicle diseases have been available at one child increased 183–260 by 100 children.

Index of loss of health (LH) at the moment of entering school was 0–18,55 (average $5,67 \pm 0,22$, that testified about functional condition or chronicle illness in one of the classes of disease (ICD-10)). For the time spending at primary school children's health become worse. Considerable LH ($7,37 \pm 0,23$ at the end of elementary school, $p < 0,001$; $9,03 \pm 0,41$ after high school, $p < 0,001$) was confirmed. The highest LH level as 23,63; 24,24; 25,12; 31,42 were marked confirmed respectively percentage of LH. The tendency of increasing of LH index girls after high school was observed ($7,80 \pm 0,32$, $t = 1,91$).

PD within the age group norm had 78,0% children, high and low 12,2% and 2,3% respectively, acceleration – 6,5%, very low – 1,0%. The average indexes of Z-score of body length different age groups laid within $0,34-0,54\sigma$. Harmonious PD had 64,9% girls and 75,2% boys ($p < 0,05$), disharmonious PD with the lot of body weight was observed at 20,7% schoolboys, with deficiency – 9,3%. Obesity was more often diagnosed at boys – 13,1%, $p < 0,05$. Z-score of index of body weight laid in the normal values, the most expressed deviation from median was revealed at 10–15 aged boys ($0,78\sigma$).

Conclusion: Monitoring testified to necessity of strengthening physical health, nutrition optimization and physical activity.

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HEALTH OF STUDENTS: A NEW TREND

Zhuravleva I.

Background: The health of adolescents and young people is particularly worrying today. During the period 1990–2008, the total morbidity rate of the population has grown by 18% and adolescents aged 15–17 – by 216%. This is largely due to the deterioration of behavioral factors.

Aim: One of the objectives of the study «Health Students» was to find out what makes young people care about health.

Patients and methods: The study «Health Students», held the IS RAS by a single program and method in 10 cities of Russia and Belarus in 2009 (n = 4053).

Results: The health research of recent decades has consistently revealed a feature common to all respondents, regardless of age, gender and education. Out of the six main motives for the health care on the first place has always been the «deterioration of health», that means that caring about health among Russians had a very therapeutic and not preventive character.

The study «Health of Students» revealed for the first time that a significant proportion of respondents – 40% of young men and 28% of young women named «the desire to be stronger and healthier», which indicated the gradual restructuring of the system of values. We compared two groups of students who have chosen the options «deterioration of health» (traditional group – TG), and «desire to be stronger, healthier» (advanced group – AG). Comparison of these groups showed that self-rating of health as «good» in AG group was 2,3 times higher than in TG. And the «bad» health reported in TG was 5.3 times higher among men and 3 times higher among women. Every day physical activity among men in AG was 2.5, and among women – in 3,7 times higher than in TG. Proportion of men who have passed the required medical examinations, in AG was 2,1 times, and women – 1,6 times higher than in TG.

Conclusion: The tendency of strengthening personal responsibility of individuals for their health. Support for this trend among young people by promoting healthy lifestyle and creating conditions for it's is extremely important.

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PROVISION FOSTER CHILDREN
AND PUPILS WITH THE HEALTH PROTECTION
AND MEDICAL CARE AS A SYSTEM
OF THE EDUCATIONAL INSTITUTION
OPERATION

Zilina E., Xarlamova T., Galkina E., Prosvirkin V.

Background: Urgency of the problem.

Child's success at education in the educational and professional institutions depends directly on the level of the provision with the health protection for all age phases of his development.

Aim: Provision foster children and pupils with the health protection and medical care as a system of the educational institution operation.

Patients and methods: Methods and materials of the research.

The State Educational Institution, The Education Centre № 1679 «The school of Health» operates within the Moscow Educational System and provides continuing development of a child personality from 3-year till 18-year age.

The Center consists of a preschool institution, preliminary, principal and high schools, psychological and logopaedic services, a rehabilitation center for children and teenagers, social components (musical and theatre schools and other hobby groups). A child individual record book is developed to generalize the work results and involves educational, medical and physiological, social and psychological aspects.

Results: The Center provides correction and development of emotional and volitional spheres as well as intellectual developmental correction.

The logopaedic service provides 3–12-aged children with correction help including correction of general alalia, dysgraphia, and phonetic alalia.

The medical service carries out the children health condition annual monitoring, preventive activities, rehabilitation physiotherapy and resort treatment. As a result the number of children with chronic ENT pathology has reduced by 1,8%.

Conclusion: The educational area that promotes the system allowing the child to get the whole range of educational and medical services within the educational institution is organized in The Education Centre. That is the optimal environment for the health protection provision.

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**STUDY OF PHYSICAL HEALTH LEVEL
AND PSYCHOPHYSIOLOGICAL
DEVELOPMENT IN STUDENTS**

Zueva T., Saykinova N.

Background: Problems of students' hygienic assurance and health care maintenance are actual. Registration of physical health level and psycho physiological development will permit to decrease risk of health loss and promote professional advancement.

Patients and methods: Analysis of results demonstrated that level of physical health in a half of all the examined persons is evaluated as lower than average or low index.

Results: Some differences in physical health level in females and males were observed. Average level of health was fixed in 43% of females and 35% of males. Tension of functional state in circulatory system was found in 26% of females and 42% of males. No significant distinctions in level of physical health of students from different higher educational establishments were revealed.

Study of psycho physiological functions demonstrated that low indices of nervous system capacity are met only in females. Average level of nervous lability in females is higher than in males but high and higher than average velocities of attention switch are met more often (by 2 times) in males. Analysis of capacity for work dynamics registered that expressed fatigue by the end of lessons was observed in nearly 13% of females and 34% of males.

Conclusion: Indices of physical health levels and psycho physiological functions in students, established by the authors, can be used in organization of educational process, health-improving measures and occupational guidance.

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ASSESSMENT OF THE LEVEL OF FORMATION OF A HEALTHY LIFE STYLE IN STUDENTS OF EDUCATIONAL INSTITUTIONS

Zvezdina I.

Background and aim: The main strategy of prevention of diseases in students is the induction of age- and sex-specific healthy life style stereotypes. For the outlining of the focus and amount of hygienic education needed in educational institutions it is relevant to assess the level of formation of a healthy life style in students.

Patients and methods: The results of the medical examinations of pupils from 4 Moscow schools during their study from the 1st till the 7th classes (1992 persons) and from the 9th till the 11th classes (549 persons) were analyzed. The prevalence of factors, referring to the life style, awareness of schoolchildren in relation to the main risk factors and the levels of healthy life style were studied. For the determination and assessment of parameters of a healthy life style, a standardized questionnaire with 40 main questions has been developed.

Results: The main parameters of healthy life style have been determined as:

- Prevalence of the risk factors among pupils;
- Awareness of pupils of the main risk factors;
- The level of formation of stable sets for a healthy life style in schoolchildren.

Substantial differences of the parameters in schoolchildren of the same age-sex group in different institutions have been detected.

Conclusions: Assessment of the levels healthy life style allows to determine the direction and volume of health promotion needed in educational institutions, and to assess the efficiency of the health promotion strategies applied during the study process. The main parameter of a healthy life style is the decrease of the prevalence of the risk factors that would help to protect and improve pupils` health.

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MONITORING OF THE RISK FACTORS OF NONINFECTIOUS DISEASES AMONG STUDENTS IN EDUCATIONAL INSTITUTIONS

Zvezdina I.

Background and aim: There is a significant prevalence of the risk factors of noninfectious diseases among students: hypodynamia, unhealthy food, smoking, alcohol use. Monitoring of the risk factors in educational institutions is relevant for taking of timely decisions on the issues of organization and conduction of preventive work.

Patients and methods: The dynamics of the risk factors among students of 4 educational schools and 2 institutions of primary professional education of the city of Moscow have been studied. The total of 1316 adolescents (651 males and 665 females) in the age of 14–18 years old was examined. By means of a questionnaire survey the prevalence of factors using standardized criteria of their assessment, reproducibility (preservation at the periods of study), and the incidence of new cases have been studied.

Results: The prevalence of risk factors in the dynamics of study increases ($p \leq 0.05-0.001$). An unfavorable prognosis towards the end of study has been detected. The total stabilization of risk amounts to 25,0–97,8%, depending on the factor, sex, and educational institution. For males the most stable factor is smoking, for females – hypodynamia, alcohol use. There are periods of decrease of reproducibility of the factors at the stages of observation that indicate readiness of adolescents to give up harmful habits. Differences of the factors incidence in different institutions have been obtained: smoking (3,8–14,2%), alcohol use (8,2–16,7%), hypodynamia (4,7–24,5%).

Conclusions: Monitoring of the risk factors involves an active detection of the factors among students at the periods of study that would allow controlling their dynamics. Determination of reproducibility allows using a differentiated approach to prevention both at the group and individual levels (taking into consideration the factor, sex and year of study); incidence – at the population level considering needs of an educational institution, to assess efficiency of preventive programs.

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FORMATION OF HEALTHY LIFESTYLE OF THE MOSCOW SCHOOLCHILDREN

Zvezdina I., Trofimenko A.

Background and aim: The high prevalence of risk factors, caused by the lifestyle, among modern children and adolescents, determines the need to study the formation of healthy lifestyle (HL) of schoolchildren to set priorities in the preventive work in educational institutions.

Patients and methods: Anonymous questioning, using a standard questionnaire form was conducted among 1,784 students of 5–11 grades of 12 Moscow schools.

Results: Significant differences were found in the prevalence of factors of high risk depending on the year of study, sex of the students, and the educational institution. The degree of information awareness of the students in the schools was on average 62,6%, the average point is $10,7 \pm 3,31$ (with the maximum value of 17 points); the formation of directives to HL– 54,4% and $9,8 \pm 2,42$ points, respectively. Their relation to age and the year of studies is not established. The values of indices of formation of the directives to HL are lower ($p \leq 0.05$), than the data of informational awareness of the same students.

Conclusions: The high prevalence of adverse factors, determined by the lifestyle, is observed among Moscow schoolchildren against low informational awareness of the students of vicious habits.

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LOW MOTOR ACTIVITY AND HEALTH OF ADOLESCENT STUDENTS

Zvezdina I., Trofimenko A.

Background and aim: One of the principal risk factors of development of non-infectious diseases is low motor activity. Substantial deterioration of the health status in students for the period of study in educational institutions determines a necessity to study the prevalence of low motor activity and its influence on the health of adolescents.

Patients and methods: Medical examination of pupils of the 9–11th classes in 4 schools and students of the 2 institutions of primary professional education of the city of Moscow was performed. 1067 adolescents in the age of 15–18 years (545 males and 542 females) were examined. Clinical and epidemiological methods were used. The questionnaire survey of students and their parents was arranged. The relation of hypodynamia to deviation in the health status of adolescents was studied.

Results: A high prevalence of hypodynamia according to the WHO criteria was found. Low motor activity was more frequently present among females (83,0%) in comparison to males (69,2%; $p \leq 0,01$). Among adolescents, going in for sports only at the physical training lessons, the number of females (62,0%) is 1.3 times higher than the number of males ($p \leq 0,05$).

Girls with hypodynamia in comparison to the girls of the same age with a sufficient physical activity more frequently ($p \leq 0,05$) suffer from vegetovascular dystonia, asthenoneurotic syndrome and other functional disorders of the nervous system; there is a tendency of occurrence of functional deviations of the visual organs and the musculoskeletal system. In males relation was found of low motor activity ($p \leq 0,05$ – $0,01$) with deviations in the physical development and both excessive body weight and weight deficit, disorders of the musculoskeletal and digestive systems.

Conclusions: There is a high prevalence of low motor activity among students. The relation of low motor activity with deviations in the health status of adolescents has been confirmed. The data have shown the necessity to implement programs for arrangement of a healthy life style in educational institutions.

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UNHEALTHY NUTRITION AS RISK FACTOR OF NON-COMMUNICABLE DISEASES AMONG SCHOOLCHILDREN

Zvezdina I., Trofimenko A.

Background and aim: WHO identifies irrational (unhealthy) nutrition as a basic risk factor of noncommunicable disease development. As children's health degrades over the school period, it is relevant to study the epidemiology of unhealthy nutrition and its effects on their health.

Patients and methods: Medical examination of Moscow pupils was held over 3 school years. 615 pupils of 9–11-th forms of 15–18 years old were examined clinically and epidemiologically. A questionnaire survey of the pupils and their parents was held meeting WHO's requirements. A relationship between children's nutritional disorders and pathological states was analyzed in 20 groups of diseases and separate nosological entities.

Results: Most of the pupils have breaks between meals over 5–6 hrs. Over the school period their number grows from 63,8% in the 9-th form to 77,3% in the 11-th form ($p \leq 0.05$). 77,9% of children do not follow WHO's recommendations for consuming fruit, vegetables and juices. Pupils often (≥ 3 times per week) eat spicy and fat food (68,3%), preserved food (27,5%), rarely (≤ 1 time per week) eat meat (12,6%) and dairy food (28,2%).

Rare use of fresh vegetables/fruit was found to be related ($p \leq 0.05-0.01$) to cardiovascular, endocrine and gastroenterological anomalies. Insufficient dairy food and meat consumption was proved to be related to musculoskeletal, endocrine and nervous diseases; frequent use of preserved food – to functional cardiopathy, arterial hypertension, nervous anomalies, gastroenterological and musculoskeletal diseases.

Conclusions: A health-risky high spread of nutrition disorders among schoolchildren is noted. Unhealthy nutrition was found to be closely related to pathologies, particularly, of the intensively growing and developing systems. This calls for teaching children and parents rational nutrition basics and forming their healthy life stereotypes.